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MILITARY AFFAIRS

No. 1738



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AIR FORCES

FLIGHT TRAINING CONDUCTED UNDER ADVERSE WEATHER CONDITIONS

Moscow KRASNAYA ZVEZDA in Russian 18 Jun 82 p 1

[Article by Guards Maj Yu. Pyl'nev, squadron commander and military pilot 1st class: "Back It With Action"]

[Text] Tactical flight training was underway in our guards bomber aviation regiment commanded by Guards Col V. Sadikov. The flight to the target took place under adverse weather conditions and in a complex air environment. Along the flight route, enemy fighters as well as enemy air-defense missiles were on the lookout for us. We had to change altitude constantly and avoid radar-detection zones. It was nighttime, and the clouds were dense. The flight of several hours duration (with all the course changes, the flight route proved to be of maximum range) took place in an atmosphere of constant tension. All the regiment's crews in these tactical flight exercises, however, arrived at the target at the precise place and time and made an accurate strike.

We concluded this strike against the target in a superb manner, but the tension did not subside. According to the conditions of the exercise, we still had to land at an intermediate airfield unfamiliar to many of the crews. We coped successfully with this mission as well. Then we assumed a course back to our own airfield. It was after midnight, and everyone wanted to conclude the mission as soon as possible. The crews were rather tired. Suddenly, we received a new hypothetical condition: the airfield was closed due to fog, and we had to proceed to a reserve airfield in the vicinity. We still had a lot of flying to do to get there. It had already started to get light when the last aircraft taxied in. Our rivals at this airfield were in competition with us, yet they interrupted their flights to service the aircraft of their guests.

It goes without saying that the test proved to be a comprehensive examination, and the guardsmen came through with flying colors, including our squadron. I can tell you this much: had we not carried out our plans and fulfilled our obligations for combat instruction and upgrade training during the winter period, individual crews and entire units would hardly have been able to pass such a test. Indeed, since the beginning of the training year, conditions had been such that all our plans were threatened with disruption. The reasons were objective: we did not have good flying weather--we had fog, then rain mixed with snow, then cloud cover below all acceptable limits. This was some sort of justification, but who would be comforted by it? Indeed, we were losing our flying, navigational and tactical skills. In

the final analysis, all of this had a telling effect on our combat readiness. Moreover, under these conditions, how did the flight personnel feel about initiating competition among the Air Forces? We then received information that our rivals were passing us by. I can tell you frankly that we were uneasy about it. We had taken on lofty obligations, and we had to back our words with actions. But how?

Questions regarding the search for a way out of the situation that had taken shape were pointedly posed at meetings among the unit's officer personnel and at regimental and squadron communist meetings. We could not expect to manage to improve our flight crews' class ratings during the summer. An analysis of many years of data indicated that adverse weather conditions in these areas during the summertime were a rarity. On the basis of this, we planned to solve all problems regarding the upgrade training of our pilots during the wintertime. Sometimes, however, nature overturns even scientifically based plans. We were not prepared to surrender, however, and we struggled stubbornly to realize our preliminary plans and to fulfill our great socialist obligations.

We did find a way out. We decided to "search for weather," that is, to employ the airfields for our maneuvers. It is not a simple method, but it was better than sitting around idle. In the regiment we actively began to "hunt" for minimum weather conditions. We flew at our airfield or at the neighboring field when there was the slightest chance of such conditions occurring. When suitable conditions arose, we strove to use them with maximum efficiency. In planning each flight, we thought it through with great care from the point of view of conserving and making efficient use of training time, fuel and equipment. In close connection with these tasks, we solved problems regarding the time necessary to bring the units up to combat readiness conditions, reducing it by 2.5 percent.

Here our efficiency experts found a broad field for their activities. The regimental party committee headed by Guards Lt Col Nagoryanok worked with them constantly. Thus, the activity of these innovators grew. Suffice to say that they submitted 54 valuable suggestions in the winter months, of which 50 have already been put into practice. This work continues even today.

As a result of the coordinated actions of the commanders, political workers, headquarters and unit party committees as well as the selfless labor of the personnel, we managed to achieve not only a 100-percent realization of all combat training tasks during the wintertime, but also an overfulfillment of our obligations with respect to many indicators. Thus, we entered the summer period, having fulfilled 67 percent of our annual flying-hour plan and 82 percent of our annual plan for upgrade training. The average grade for navigation and combat training was 4.65. As in previous years, the unit worked without any flight mishaps, and there were no cases of serious accident-proneness.

As commander of the 1st Aviation Squadron, I am pleased to note that our unit left the ranks of average flyers and entered the ranks of the leaders, earning the title of "outstanding unit" (today all squadrons within the regiment are in the ranks of the outstanding). Communist Guards Captains I. Baranov and S. Peresadin successfully passed the test for upgrade to 1st class, and now all aircraft pilots and navigators are highly rated specialists. Among the leaders of the competition we should name the following: officers A. Kotov, A. Loginov and F. Beloborodov; Guards Warrant Officer V. Gusov and other specialists. It is not for nothing that they are called leaders. The people here worry about the honor of the squadron and the

honor of the regiment which led the aviators' competition in a fitting welcome to the 60th anniversary of the USSR.

Combat flight training is in full swing. The momentum is good, and we, figuratively speaking, are now in a steady climb, on our way to our assigned altitude.

9512

CSO: 1801/08

AIR FORCES

TARGET-TOWING CREWS UNABLE TO IMPROVE PROFICIENCY RATINGS

Moscow KRASNAYA ZVEZDA in Russian 23 Jun 82 p 1

[Article by Lt Col A. Yurkin: "In a Flight That Had Once Been Outstanding"]

[Text] I first visited this independent air squadron at the beginning of winter flight training. The secretary of the unit's Party bureau, V. Temlyakov, said that pilots and navigators in the flight of target-towing aircraft had lost their proficiency ratings and were not able to carry out the missions assigned to them and obtain quality results.

That is how it proved to be, too. Among other things, flight commander Maj V. Belyayev made his last night flight in April of 1979. In the past he had been a pilot-instructor 1st class, but in this flight, he could not even make the 2nd-class rating. For more than nine years, the senior pilot in the flight, Capt O. Kozlov, has held the rating of military pilot 3rd class. Capt V. Pervukhin, who had previously held the rating of pilot-instructor 2nd class, has not taken off at night for almost three years. The list can be continued.

As it turns out, this is not the first year that the target-towing flight has had poor results with respect to upgrading flight personnel. It is not the fault of the pilots and navigators who have set lofty goals for themselves in socialist competition and strive to be experts at their profession. This has been said many times at official meetings and Party assemblies. The communists have sent written requests for assistance to the air district's political section, but the situation has not changed.

At air district headquarters, Maj Gen Avn A. Goncharenko and senior flight examiner Lt Col V. Mileshnikov asserted that everything revolved around the lack of instructors in the district who had experience in that particular aircraft. In order to correct the situation, they planned to train officer Mileshnikov, who would then fly as instructor with the target-towing aircraft.

When springtime activities had died down, the summer training period began. Together with the secretary of the air squadron's Party bureau and officers from the target-towing flight, we discussed what has changed since the time of our first meeting and what results the aviators achieved during the winter in improving their combat skills. Essentially, everything remained at its previous position.

What had kept the crews of the target-towing aircraft from fulfilling the necessary minimum requirements to at least certify or improve their ratings in the foreseeable future? The pilots in the flight maintained that there was no one to work with them. Consequently, even those flights which had been carried out from a base at which they had temporarily been based did not bring the desired results. In the training regiment of the Barnaul Higher Military Aviation School for Pilots imeni Chief Mar Avn K. A. Vershinin, the crews of the target-towing aircraft were not "entered" into the planning tables with their type of aircraft. The school staff considered them strangers and did not pay much attention to them. The final result of this is the fact that Lt Col Milesnikov himself cannot fly this type of aircraft during daytime minimum weather conditions, without which he cannot train the target-towing crews.

Another confusing aspect of the organizational procedure also interfered. In the winter, for example, when weather conditions were favorable for flying, the training regiment did not fly for a long time, and the airfield was not set up for the towing crews. Then the section's officers were made to participate in the assemblies of flight control officers. Flights were disrupted for other reasons as well.

The situation that has taken shape in the towing flight can in many respects be explained by errors in long-range planning for personnel transfers. Here is the confirmation. A few years ago, aviators did not have difficulty with improving their proficiency ratings, since the previous flight commander held a 1st-class rating, and, as an instructor, skilfully trained his subordinates. Plans were not made to train an equivalent replacement for him in time. When he left the flight, it turned out that there was no instructor. At that time, the squadron staff did not assist the present commander, Maj Belyayev, in certifying his proficiency rating, nor did they organize the necessary combat training for him in the air with an experienced senior comrade who could fly confidently day or night under inclement weather conditions. For this reason, Belyayev now without an instructor cannot make up for the oversight and flies day and night only under VFR weather conditions. Correspondingly, he does not have the right to train his subordinates to obtain a 2nd-class rating.

There is one more factor that has a negative impact on the state of affairs in the target-towing flight that had once had an outstanding rating. A few years ago, the flight, which had previously been an independent section, was incorporated into the squadron. However, it still has not blended with the collective, nor has it become a part of the whole. The squadron commander, Lt Col N. Syplivets, does not conceal the fact that they look upon the training of the tow crews as a matter that only indirectly concerns them.

The target-towing flight, however, is a small cell of an aviation collective and is very important in the air district mechanism. In many respects, the quality and effectiveness of the combat training that the antiaircraft gunners receive depends upon the professional skill of the pilots and navigators. During the wintertime, for example, the flight was unable to support the nighttime operations of air-defense facilities, because the pilots and navigators had not confirmed their right to fly in the night sky. Instead of working with actual targets, the antiaircraft gunners were forced to limit themselves to simulated targets or to carry out occasional training against random targets.

For three years the aviators in the flight have not been fulfilling their socialist obligations with respect to improving their proficiency. An analysis of the combat training at the first stage of the flying period shows that planning costs and oversights in flight training methodology still make their presence felt. We cannot here justify the position of those responsible authorities who do not exhibit vigor in searching out the possibilities for improving the quality of the combat training of the pilots and navigators in this previously outstanding aviation section. During the summer training period, the maximum effort must be applied in order to move this important matter moving along, to help arrange a normal training process for the target-towing crews and to exhibit a genuine concern for the improvement of the crews' flying skills and the fulfilment of socialist obligations assumed in honor of the 60th anniversary of the formation of the USSR.

9512

CSO: 1801/08

AIR FORCES

MAINTENANCE SPECIALISTS PERFORMING EXTRANEIOUS DUTIES

Moscow KRASNAYA ZVEZDA in Russian 30 Jun 82 p 1

[Article by Col A. Zakharenko: "Aviation Specialists or Unskilled Laborers?"]

[Text] I visited Engr-Capt V. Liplyanskiy's technical maintenance unit when the work day was in full swing. I was immediately struck by the test stands, tools, lathes and other machine tools ready for business, only there were no people in the hangar or the laboratories. This enterprise, upon whose activities the air regiment's combat readiness would, in the end, be dependent, was fitted out with the last word in equipment, yet it had apparently died.

I was interested to find out why the officers in charge of the groups, the technicians and the mechanics were not at their posts. Counting off on his fingers, an officer recalled where the aviation specialists were at that moment: repairing the runway and the engine run-up area, building living quarters and the check point, etc.

I spoke with Engr-Lt Col V. Belyy, the on-site representative from higher headquarters and with Maj S. Samartsev, one of the regiment's political workers. As strange as it may seem, they were not surprised by the situation in the technical maintenance unit. It seems that, as a rule, no more than a third of the specialists work directly with the equipment here. The remaining specialists, including the officers and warrant officers, are sent to do various jobs throughout the entire garrison by order of the garrison commander and other responsible officers.

The following mechanics, for example, have not been near an airplane for the last several months: Sgt F. Safarov, Pvt Ye. Vol'vich, Pvt S. Storozhenko, Pvt. V. Valov and several others. They have not worked on any aircraft, since they have spent many hours keeping the garrison in order, including the officers' quarters and other installations. Night and day, 11 aviation specialists worked in the stoke-holes of the boiler plant during the entire heating season, which is relatively long in these parts.

In the regiment, they remember those unhappy days when results were tallied for competition during the winter training period. The unit received only a satisfactory grade. The difficult work of the flying and technical staff was basically supported by the technical maintenance unit, which did not always fulfill its assignments on time and with quality results. In fact, it caused gross violations of discipline within the collective. Who allowed these to occur?

Engr-Capt Liplyanskiy compared the record of disciplinary actions with a document that listed the occasions when personnel had been taken away from their assigned duties and scheduled maintenance operations on the aircraft. He found the same individuals on both lists. The reason for this is understandable. The disruption of the precisely planned rhythm of combat training and duties cools the people's ardor and does not contribute to the strengthening of military and technical discipline.

The soldiers who have been at the building sites and in the boiler plants for months have proved to be outside the field of vision of their commanders and the collective and essentially have not been encompassed by socialist competition. Unfortunately, the process by which a considerable portion of the personnel is repeatedly taken away from combat and political training and the execution of their immediate duties does not permit the chief of the technical maintenance unit and the other officers to objectively organize socialist competition according to tasks and standards.

What kind of organization of competition can there be, if the training schedule in the unit is chronically not fulfilled? In a series of scheduled maintenance operations on aviation equipment, for example, only one training session was carried out in June, at which time half of the specialists were absent. Things are no better with the maintenance schedule for the aircraft. Aircraft stood in the hangar for several days, although, according to standards, work on the aircraft should have been completed in a day and a half. In connection with this, what can the group chiefs, Capt Tech Serv N. Drozdov, Sr Lt Tech Serv V. Murashov, and the others say to their subordinates when tallying the results of competition on a daily and a weekly basis?

Incidentally, no one in the technical maintenance unit is tallying such results in recent weeks. This, however, is not the only problem. Taking the specialists away to carry out work not associated with aircraft servicing can have a negative effect on maintaining the aircraft in a constant state of combat readiness. Meanwhile, the staff at the regiment and at higher headquarters are not thinking about the appropriate conclusions they should draw from the unsuccessful results of the winter training period.

9512

CSO: 1801/08

AIR FORCES

LIVE MISSILE FIRING PERFORMED AT OPEN-SEA RANGE

Moscow KRASNAYA ZVEVDA in Russian 15 Jul 82 p 1

[Article by Maj M. Lauren: "A Strike From Beyond the Clouds"]

[Text] The airborne missile-carrier swiftly left the runway and assumed a course to the distant open-sea range. An intense, businesslike atmosphere reigned onboard. The aircraft was piloted by Lt Col M. Yepifanov, military pilot 1st class and bearer of the Red Star. As always, he was calm and collected as he carefully watched over his instrument readings and maintained the assigned flight mode. He transmitted his commanding sense of confidence and calm to the other crew members as well.

The navigator of the winged missile-carrier was particularly busy along the flight route. The accuracy with which the coordinates are determined is exceptionally important in the flight. Military navigator 1st class Capt A. Karpenko had learned to do this well. For many years he has been considered one of the unit's best navigators.

Capt Karpenko was acting skilfully on this day as well. He performed all operations nimbly and accurately. He continually leaned over the viewing tube of the onboard radar unit, performed the necessary calculations and made marks on the map. The numbers, symbols and lines on the map told the navigator many things.

The flight had been in process for several hours. The missile-carrier approached the in-flight refueling area. An airborne tanker was waiting for it at the assigned position. Thus began a difficult task that required a jeweler's precision. The missile-carrier had to come almost right up to the refueler, catch the hose that the tanker had let out and take on fuel through it.

The seconds marking the approach of the two aircraft ticked off slowly. Finally came the report of the fire-control officer, who was then carrying out the duties of the refueling operator: "Engaged!"

Having taken on the necessary quantity of fuel, the missile-carrier continued its flight to the distant target. Everything onboard was normal. The engines and all other systems onboard the aircraft were operating reliably. The instrument read-outs and indicator lights testified to the stable functioning of the numerous pieces of equipment.

The well-coordinated crew, capable of performing under various conditions in the rapidly changing environment, was combat-ready. Each crewmember strove to make his contribution to fulfilling the socialist obligation that had been taken on before takeoff: launch the missile with deadly accuracy and execute their mission in the air as successfully as they had during the Zapad-81 exercise. At that time, the naval aviators' training was given the highest possible rating.

The closer they approached the target, the more complex became the tactical environment. The enemy was jamming heavily. Fighters climbed to intercept the missile-carrier. The aviators, however, stubbornly made their way to the target. They made skilful use of an antifighter maneuver, found the means to counter the jamming and assumed their combat course.

"Do not turn away from the combat course." On 24 June 1944, these words were spoken by bomber-group leader Lt Col M. Basyakin, former commander of the regiment in which Lt Col Yepifanov and his subordinates were now serving, and were relayed by radio to his wingmen. At that time, on the approach to the target, the lead aircraft was attacked by fascist fighters and caught fire. The courageous pilot made the decision to lead the group to the target in his burning aircraft. Basyakin and the members of his crew perished, but the regiment's pilots carried out their combat mission. The bravery of those front-line heroes and their loyalty to the military oath serve as a precise point of reference for today's generation of Baltic aviators.

It was still a long way to the target when the characteristic blip "broke through" the background of jamming on the screen of the search radar. Capt A. Karpenko quickly and correctly determined that that was the very target for which the flight of many hours duration had been made. From that moment on, everything onboard became subordinate to one main thing--the execution of the missile launch.

Radar navigator Capt I. Unishkov came to the assistance of the other navigator. This was when the skills developed and honed during training sessions and on training flights came in handy. Scant seconds were allotted to the execution of each of a multitude of operations. Capt Unishkov managed to keep within the stringent norms. Capt Karpenko performed with the same degree of precision.

They had locked on to the target solidly. The aircraft had come into weapons range, and the electronic commands from the missile-carrier's control panels were received by the missile's onboard systems. The systems' operational reliability was confirmed by return signals.

"Commander and crew, prepare for launch!" reported Capt Unishkov.

Lt Col Yepifanov checked his instrument readings one more time and assured himself that everything was normal.

"Launch!"

The aircraft shuddered and bucked as it was freed of its heavy cargo. The brilliant train of flame behind the missile was not visible for very long as the missile dashed into the clouds on its way to the target. The report from the range soon arrived onboard: "The target is destroyed!"

Back at the airfield, the airmen were happily greeted by their smiling comrades. According to an established unit tradition, Lt Col Yepifanov, the hero of the day, was presented with the arming pin from the "lucky missile" in memory of the well-aimed launch.

9512

CSO: 1801/08

AIR FORCES

BOMBER CREWS LEARN TO OVERCOME ENEMY AIR DEFENSES

Moscow KRASNAYA ZVEZDA in Russian 12 Aug 82 p 2

[Article by Maj V. Pivovarov, bomber regiment senior navigator: "Breakthrough to the Target"]

[Text] It happened at one of the meetings between the pilots and navigators from our aviation regiment and the soldiers from an antiaircraft missile battalion. They showed us their complicated apparatus and their powerful equipment and weaponry. The battalion commander, Lt Col V. Pavlyuk, acquainted us with the work of the crew at the radar station. Incidentally, he said:

'Our launch crews recently completed an interesting exercise. They tracked airborne targets over the range. By the way, our regiment was flying at the same time.'

Did that mean that our bombers were the targets? It was very interesting. We began to ask questions. What were the possibilities for target acquisition? Was the efficiency of target destruction high? What were the results of the training? Modestly, Pavlyuk replied:

"The launch crews earned high marks."

Of course, we were happy for the battalion's success, for we had long been friends with the soldiers in the battalion. Here is what puzzled us, though. Indeed, on that day our regiment's crews received marks of excellent and good for accurate strikes against the ground target, during which they took evasive action against the antiaircraft fire and executed antimissile maneuvers. The effectiveness of these maneuvers, however, was not always high.

At the regiment, we returned to a discussion of that flying day, and we analyzed in greater detail the actions of the crews as they broke through to the target. I can tell you frankly that they saw the mistakes they had made in the air in a different light.

For example, the crew commanded by Capt Burshin performed its combat maneuver carelessly, although it did arrive exactly on target. Another crew comprised of Capt S. Rekrut and Lt S. Karatayev lost 30 seconds along the flight route. As a result, they were late arriving at the target and dawdled with the maneuver. In general, both crews carried out the bombing well. Would they have achieved success, however, in an actual combat environment? Using photographs of the screens on their radar equipment, the launch crews proved what the smallest tactical errors can lead to.

How can one be alerted to these mistakes, and how can they be avoided? How can one improve the effectiveness of the combat maneuver employed to foil the opposition posed by the enemy's antiaircraft defenses? These questions demanded that we more carefully analyze our pilots' and navigators' course of combat training. The problem was discussed at regimental headquarters and in the unit's training council. We spoke of how some airmen underestimate and lose sight of the dynamic nature of the changes that take place in the combat capabilities of a probable enemy's weapons, tactics and air defenses. For this reason, they do not always employ the bomber's combat characteristics with initiative and creativity.

Thus, the way to solving the problem is can be seen in having the aviators acquire sound knowledge with respect to aerodynamics, tactics and their equipment. Of course, the pilots and navigators constantly add to their knowledge. Had this been observed often? During an exercise, the pilot would be asked to discuss the tactical and technical capabilities of an airborne system or some type of weapon used by the ground forces. The officer would name numerous data and figures, and the exercise director would be satisfied. However, it would remain unclear what conclusion would necessarily have to be made from this information and how this knowledge could be practically applied.

Ground-based training likewise suffered at times from sketchiness and stereotyped patterns in its approach to combat training. Frequently the officers studied only textbooks whose contents had long ago been memorized, while drawing the same flight routes, maneuvers and range-target layouts in their workbooks.

The exercises proceed in an entirely different way when they are carried out against a complex tactical background, and when crews in the special training simulators are given unexpected exercise conditions relating to the enemy's use of various types of antiaircraft weapons.

Great advantage can be derived from tactical meetings in which various methods for solving target-penetration missions are thoroughly analyzed in light of the dynamics of modern warfare. The solutions sought after are those which have the greatest degree of efficiency and which display the most initiative. These solutions are then tested in the simulator and, finally, during flight.

Such was the case, for example, when the crew comprised of pilot 1st class Capt S. Korotkov and navigator Maj Yu. Dem'yanov was given the mission of bombing a target heavily defended by enemy air-defense weapons,

The bomber was detected by the enemy over the front line. Enemy fighters were in the air. Korotkov executed a maneuver to evade the fighters--he brought his aircraft into a descending turn, then into a climb. The enemy fighter was pulling a maximum G-load, and at that moment its technical capabilities did not allow it to execute a missile launch. Soon afterwards the crew made an accurate bomb strike.

This episode says something about the skill of the pilot and the navigator, and about how their sound knowledge of weapons and tactics found actual practical application. We take this into consideration when we organize the summer combat training. The squadron commanded by Lt Col V. Zaytsev, for example, has accumulated a great deal of experience. All the best lessons learned during the Zapad-81 exercise are put into active combat use by the squadron during the flights.

I wish to dwell in a little more detail on this experience. Exercises performed under conditions approximating the combat environment as closely as possible have shown the necessity for skill in breaking through heavy enemy air defenses on the way to the target. The squadron's summer training plan made provisions for solving this problem. Weapons and tactics must be studied with regard given to possible enemy opposition against a background of a complex air environment.

A thoughtful and careful approach to combat training makes it possible for the air-men in the squadron to increase their efforts to improve combat skills and to achieve high marks in socialist competition. This is not easy, since they now do more than just compare bomb scores. Each element of the flight is evaluated from the point of view of the invulnerability of the bomber in battle.

Once again I will speak of our profitable friendship with the missile launch crews. With their help, we utilize the photographs of the radar screens at anti-aircraft missile complexes to train our flight crews. We likewise determine the effectiveness of the bombers from the reports of the officers in charge of the ground crews.

9512

CSO: 1801/08

AIR FORCES

TACTICAL TRAINING CONDUCTED FROM TEMPORARY AIRFIELD

Moscow KRSNAYA ZVEZDA in Russian 15 Aug 82 p 1

[Article by Col I. Tomlin, military pilot-sniper, Group of Soviet Forces Germany: "From the Temporary Airfield"]

[Text] The complex environment of a recent tactical flying exercise required aggressive, decisive actions on the part of the aviators. The fighter squadron was charged with the mission of immediately carrying out a transit to a temporary airfield and providing an installation with reliable cover from the air strikes of enemy aviation. Taking into account the range of the flight and the adverse weather conditions, squadron commander Maj A. Tyurikov decided to proceed along the route in flights. This insured the highest degree of maneuverability and interaction among the crews.

A few months earlier, the squadron would not have been able to carry out such a mission. At that time, some of the pilots were not cleared for flying under adverse weather conditions. Thanks to an intensification of the training process, however, the aviators' flying skills had grown literally day by day. In a flight commanded by Capt V. Komel'kov, for example, the commander and his subordinates had been upgraded. Now all the pilots in the squadron have the high ratings of specialists, with almost 75 percent having 1st-class ratings.

After the conclusion of the transit, the technicians and mechanics at the temporary airfield began preparing the missile-carrying aircraft for air combat. Each of the specialists worked at night according to daytime standards, taking the place of those comrades who remained at their own airfield. They removed external fuel tanks, suspended missiles, loaded the cannons and checked and adjusted the equipment. It seemed that Engr-Maj V. Stukalov managed to assist his subordinates everywhere through his words and deeds.

Maj Tech Serv N. Boyko, the deputy squadron commander for engineering aviation services, accurately supervised the actions of the specialists. When the aviators received an unexpected exercise condition from the senior officer regarding the "breakdown" of one of the aircraft, the skeleton crew of aviation specialists that was immediately organized and was supervised by Boyko did a high-quality job of repairing the aircraft at the temporary airfield in the shortest period of time.

A report came in: the enemy was attempting to break through to the installation being defended. The enemy was represented by a maneuverable, radio-controlled target. Military pilot-sniper Lt Col V. Fedorchenko climbed to intercept the enemy.

The officer was tasked with knocking down the target using cannon fire. This is considerably more difficult than using a missile. The pilot understood what effect the results of his individual combat with the target would have on the combat attitude of the other aviators. Exhibiting a heightened sense of responsibility, tactical skill and strong, tempered will in this situation, Fedorenko knocked down the target with the very first attack.

The battle, however, only flared up. Again and again reports came in regarding radar acquisition of the air enemy. The pair led by flight commander Capt S. Broslavtsev had only seconds before the attack on the radio-controlled target (they attacked from the flank). In this already complex environment, an unexpected exercise condition arrived from the ground:

"The wingman attacks."

On the ground radar screen, I had occasion to observe the vigorous maneuver of the wingman, Capt S. Petrushenko. He surged forward. The missile launch was deadly accurate.

The pilots' individual combat engagements with the radio-controlled targets continued into the night. Each training engagement differed in its highly dynamic nature, the abundance of vigorous maneuvers and the tactical variations. It was not easy, for example, for Lt Col L. Aleksandr to separate the target reflection from the background of bright ground-clutter blips on the radar screen of his on-board gunsight during the target's maneuver. The pilot, however, managed to sight-in accurately and hit the target in the very first attack. Deputy squadron commander Maj V. Lamzin countered the target's vigorous maneuvers with skilful use of his missile-carrier's excellent dash capability and likewise successfully concluded his one-on-one engagement in the night sky.

Captains A. Kanevskiy, S. Ganoda and I. Astashonok, combat-control navigators, rendered a great amount of assistance to the pilots in air combat. All three of them are 1st-class specialists. They were quick to get their bearings in this situation, showed restraint and self-control in the most complex tactical and air environment and sent timely and precise commands from the ground. In doing so, they considered not only the tactical methods being employed and the aircraft performance parameters, but also the pilots' characters and their particular flying skills.

The aviators from this outstanding squadron passed the test of the sky with honors. The tactical flight exercise showed that the unit personnel greeted USSR Air Forces Day with increased combat skills. Ahead are new horizons in combat development.

9512

CSO: 1801/08

GROUND FORCES

MOTORIZED RIFLE UNIT TRAINING

Motorized Rifle Unit's Mountain Training

Moscow KRASNAYA ZVEZDA in Russian 9 Sep 82 p 1

[Article by Maj V. Bogdanov, Red-Banner Transcaucasus Military District: "Combat Among the Rocks"]

[Text] The battalion was readying for mountain combat. The motorized riflemen, already familiar with the harsh nature of mountain terrain, were particularly thoroughly checking their mountain-climbing gear, weapons, and were listening attentively to the advice of those men who had experience in climbing mountains. The officers also had their concerns.

Battalion commander Maj A. Levitskiy assigned tasks to the company commanders, issued final instructions, and fell silent for a moment. But, resting his gaze on Sr Lt B. Pivovarov, he said: "I wish success particularly to your subunit. You are operating independently, separated from the main forces. I am convinced that the key to the battalion's success lies precisely there, in your sector. If you take the mountaintop behind 'aggressor' lines, you will be greatly assisting the frontally-attacking companies."

The battalion commander mentioned this with good reason. The company under the command of Senior Lieutenant Pivovarov would be performing the most difficult mission. His motorized infantrymen were to make their way behind "aggressor" lines and take by assault a mountaintop which dominated the surrounding terrain. To reach it they would have to make their way through a mountain gorge along a narrow trail.

The platoon leaders were already waiting for Senior Lieutenant Pivovarov.

"We are executing an outflanking maneuver, without vehicles," the company commander concisely briefed them. "Report ready in 20 minutes."

The company proceeded to move out toward the objective precisely at the designated time.

Soon the company was at the foot of a cliff. The motorized riflemen took out ice axes, secured crampons to their boots, and readied for the assault. Senior Lieutenant Pivovarov broke the company down into three assault teams.

He himself led one of them, which was to cover the most difficult route, while he assigned the others to platoon leaders Sr Lt O. Ivanov and Lt S. Manannikov.

Directions were specified, as well as routes of ascent from one reference point to the next. The men proceeded to assault the mountain. Senior Lieutenant Pivovarov led, followed by Pvt V. Urbanavichus, Jr Sgt P. Malyk, and Pfc P. Kozak.

Danger lurked at every step. At one point along the ascent route Pvt P. Kuchinskii relaxed his grasp slightly. His ice ax, less than firmly driven into a crevice, broke loose just as the soldier was shifting his foot. Sr Sgt R. Geybatov, following behind him, instantly saw the situation. Grasping with one hand his own ice ax, which was firmly driven into the rock, he stretched out his other hand, grabbed his comrade, and helped him regain his balance.

Considerable importance is attached to mountain training in the battalion under the command of Major Levitskiy. In this battalion they skillfully combine it with tactical and physical training activities. They regularly hold training drills conducted in a spirit of competition, and not only at a special facility equipped with elements of mountain obstacles but also each time they take to the mountains. The men acquire skills of negotiating scree slopes, steep inclines, canyons, and mountain gorges. During the summer training period Senior Lieutenant Pivovarov's men, for example, repeatedly practiced climbing steep slopes.

At each training exercise the battalion's officers endeavor to ensure that their men operate in a situation involving considerable physical exertion and psychological stress.

Senior Lieutenant Pivovarov was the first to reach the summit. Below him spread a panoramic view of the mock battle, in which the battalion's frontally-deployed companies were already engaged. There was not a moment to lose. The officer looked back, directing his gaze downward. The motorized riflemen, taking cover behind boulders, were dispersing along the ridgeline. Within minutes the assault teams were in place. The company commenced the assault.

The surprise assault mounted by Senior Lieutenant Pivovarov's men, in combination with accurate fire, caught the defending force off balance. A strong-point which had been considered impregnable was captured. The battalion had accomplished its assigned mission.

Motorized Rifle Unit's Reconnaissance Training

Moscow KRASNAYA ZVEZDA in Russian 11 Sep 82 p 2

[Article by Lt Gen A. Ivanov, first deputy commander, Red-Banner Baltic Military District: "Concomitant, But Not Secondary"]

[Text] The motorized rifle company under the command of Sr Lt V. Osipenko was assigned the mission of penetrating behind "aggressor" lines and reconnoitering the deployment of antiaircraft missile launchers. The recon scouts moved

into the designated area along roads turned muddy from persisting rains and determined the position of the battalion, the strength of security forces, and concealed avenues of approach. They covered dozens of kilometers in a single night. But a no less difficult test still awaited the men. They received new orders by radio: knock out an "aggressor" command post. Once again a march, study of security forces, and determination of the most vulnerable points.

To tell the truth, many men are not up to such difficult missions. Only those subunits the personnel in which are distinguished by a high level of physical conditioning are capable of successfully carrying them out.

An important activity among the diversified forms of improving the physical conditioning of military personnel are so-called secondary drills. They have long been a component part of the daily activities of the units and subunits in our district, including the men under Sr Lt V. Osipenko. I believe that it is precisely this which enabled the motorized riflemen confidently to handle tasks assigned in the field and to perform with precision at field exercises in conditions maximally approaching actual combat.

According to the established tradition in the company, all trips out to the training center in winter are by ski, while in summer and fall they are set up in the form of forced marches across rough terrain. During training activities at the firing range, at the gunnery training facility and in the tactical training area, breaks are filled with the most diversified practice drills and competitions, based on working on and improving strength, endurance, and agility.

In order to avoid spontaneous actions, the procedure of organizing training drills in the process of combat training activities is precisely spelled out in a detailed summary. When we began extensive practical adoption of secondary training drills, some commanders were rather skeptical. What is so difficult, they would say, about a forced march or traveling several dozen kilometers on skis instead of riding trucks to the range facility?

In particular, this is the way some of the officers thought in the Sevastopol' Guards Motorized Rifle Training Regiment imeni Latvian Riflemen. In this regiment at one time they approached secondary training activities in an overly simplified manner, considering them to be a secondary matter. Of course they would be included in the schedule, but they would not be mentioned in summarizing training results, and certainly no grades would be assigned. In short, there was a lack of adequate interest here in conducting secondary training activities.

The situation required urgent correction. One of the meetings of the unit sports committee was dedicated to matters dealing with organization of training activities en route to locations of exercises and during the conduct of exercises. Certain people felt considerable embarrassment over their neglect of this important part of physical training. At this point sports committee member Gds Maj A. Rulin suggested setting up a number of training stations designed for an increased physical work load. For example, additional obstacles, such as a tower, fence, and trench, were built for drivers, gunners,

missile operators, and squad leaders. Following the command "Form extended line," trainees must negotiate these obstacles, and only then take their place in the infantry fighting vehicle.

A combined tactical and weapon training area was set up for other specialists, under the direction of Gds Sr Lt B. Bedelov. After dismounting, prior to moving to the firing line, the men must bypass an abatis, run along logs inserted in the ground in a certain sequence, while keeping their balance, and negotiate other obstacles.

At other locations the motorized infantry would be assigned other tasks, for it is possible that in combat it will be necessary to operate in multistory buildings in mountains. In order to develop specific skills, including the ability to overcome fear of heights, a special obstacle course was set up in the regiment, where a number of exercises are performed at a height of several meters off the ground.

Even the most unique innovations cannot help improve the level of personnel physical conditioning if the officers in charge of training sessions lack the special methods skills for organizing incidental training activities. In that same Regiment imeni Latvian Riflemen present achievements are connected in my opinion with increased attention toward methodology and a well-conceived system of testing and grading the level of physical conditioning of personnel. Performance standards have been formulated and approved for each training location where there are obstacle courses or elements of obstacle courses; from performance in meeting standards one can fully objectively judge the degree of physical conditioning of personnel. Considerable attention has been devoted to determining doses of physical work loads, gradually increasing these loads under the supervision of officers and medical personnel.

An exemplary physical training facility has been built in the tank regiment in which Maj V. Khomenko is a member of the sports committee. The excellent results achieved by the tankers are in large measure a result of extensive utilization of incidental training activities. Officers V. Pasechnik and V. Kalenskiy have done a great deal to adopt the methodology of their conduct and to disseminate advanced know-how.

Within a short period of time tank crewmen acquire the requisite conditioning to undertake difficult marches. In field activities they display a high degree of physical conditioning. Based on the performance results of the last training year, the unit was awarded a district military council challenge Red Banner.

In the antiaircraft missile battalion which until recently was commanded by 26th CPSU Congress delegate Maj V. Terekhov, incidental training activities are conducted utilizing the specific features of the subunit's location. When necessary, crews ride to the missile site by funicular, incidentally erected by efficiency innovators. But usually the men climb stairs double time. This is a rather difficult test for newcomers, but for men who have served at least a few months it is one more opportunity to improve their physical conditioning. But that is not all: at the missile site the missile crews work out on a horizontal bar, and there is also a platform for weight lifting.

It is a distant location, but mass sports activities are vigorously conducted here. Various competitions are always organized on days off. Athletic game tournaments are particularly popular among the missile crewmen. Nor do they ignore other types of exercises and sports, including applied military and technical sports. I say this to stress the point that incidental training activities and development of physical fitness in the process of combat training produce maximum effect only in combination with efficiently organized sports activities.

In one of the units of the Proletarian Moscow-Minsk Guards Motorized Rifle Division, I watched mass competitions on a day off. I was struck by the fact that the men were competing not only in such purely military competitions as cross country and forced marches, but also were competing in long jumping, high jumping, the 100 meter dash, as well as soccer, volleyball, and fun-type relay races. All the men were in an enthusiastic mood, and yet the physical exertion was considerable.

The regimental commander told me about adjustments which had been made in organizing physical training activities following the "West-81" exercise. The principal corrections involved incidental training activities. This was connected with the fact that during the exercise the regiment was assigned the mission of defending a stretch of seacoast, to proceed by sea to an objective area and go ashore, in short, to operate in conditions to which the men were not accustomed. Therefore they decided to utilize the experience amassed at the exercise as vigorously as possible in practical training activities, particularly in organizing incidental training drills. The most diversified obstacle course elements were set up at training stations in the unit; negotiation of these obstacles helps develop in the men the ability to operate efficiently in varying combat situations.

Aggressive utilization of incidental training activities and drills in the process of combat training makes it possible substantially to improve troop field proficiency.

Motorized Rifle Unit's Breakthrough Training

Moscow KRASNAYA ZVEZDA in Russian 22 Sep 82 p 1

[Article by Maj V. Khulankhov, Order of Lenin Moscow Military District: "Battalion Executes Penetration: Troop Field Proficiency"]

[Text] The situation at the exercise was complicated. By mounting counterattacks, the "aggressor" had succeeded in halting the advance by the regiment's subunits. The reinforced motorized rifle battalion under the command of Gds Maj N. Latyshev, which had surged out ahead, found itself cut off from the main forces and became encircled.

There is always a possibility of becoming encircled in today's combat. This is well understood in the regiment, and during exercises they devote considerable attention to teaching officers and all personnel how to operate when separated and totally isolated from the main forces.

At this point Guards Major Latyshev and battalion executive officer Gds Capt L. Skobelin received orders to break out of encirclement. First of all they organized reconnaissance, sending out combat reconnaissance patrols in three directions. As soon as the required intelligence was obtained, the battalion commander, estimating the situation, decided to break through the inner encirclement perimeter where the "aggressor" would least expect it -- on a difficult stretch of terrain. Here the "aggressor" had reduced forces, since it was difficult to use vehicles. Latyshev was counting on the capabilities of his vehicles and the skill of his men.

The first thing which the commander and his executive officer worked out was matters of teamwork and cooperation. A tank company and artillery battalion were attached to the battalion. It was important to utilize them skillfully and to coordinate efforts in place and time.

At the designated time the subunits proceeded to move out along their routes. The gun and mortar crews stood by at their positions waiting for the specified signal. Guards Captain Skobelin noted down the time the subunits passed control points. This indicator characterized in large measure the care with which all items were worked out, as well as coordination in the actions of motorized riflemen, tank crews, and artillerymen.

The motorized rifle and tank companies began deploying into platoon columns at the prior-designated point. They immediately opened fire with guns and mortars, smashing a breach in the "aggressor's" defense. Guards Major Latyshev firmly held the threads of control of the motorized rifle companies, attached and supporting subunits. His confidence in successful execution of the assigned mission infused everybody. The headquarters staff performed with precision under the direction of Guards Captain Skobelin, analyzing the developing situation and coordinating the actions of the subunits.

By the moment the last shell burst on the "aggressor's" positions, the motorized riflemen and tank crews had already redeployed into combat formation. Their assault was massive and well-coordinated. The "aggressor" was pushed back from the first defensive line, it became possible to increase the rate of penetration, and the companies proceeded to form into platoon columns.

But suddenly well-concealed and camouflaged "aggressor" tanks and infantry appeared in the path of the penetrating troops. A report to this effect was communicated to Guards Captain Skobelin. He quickly scrutinized the map and terrain to get his bearings: yes, the "aggressor" had not previously been spotted here. He was now threatening the battalion's flank, and Guards Major Latyshev, without hesitation, ordered Skobelin to attack and destroy the "aggressor," who was attempting to close the gap which had formed in the noose of encirclement.

The mortar crews were the first to open fire. They were followed by the IFV and tank guns. The battalion and its reinforcing weapons hit the "aggressor" with everything they had.

The "aggressor" was unable to close the breach opened by the battalion. Advancing at a high rate of speed and protecting themselves with strong security,

the subunit columns proceeded into the gap in rigorously ordered formation, to link up with the regiment's main forces.

Motorized Rifle Unit's Test Results

Moscow KRASNAYA ZVEZDA in Russian 2 Nov 82 p 1

[Article by Lt Col M. Malygin: "Quadrant Elevation"]

[Text] The inspection conducted at the end of the training year gave officers a great many useful lessons which should be considered in the future. Some of these are related by Lt Col Mikhail Mikhaylovich Malygin, appointed KRASNAYA ZVEZDA regular correspondent for the Southern Group of Forces.

It happened at a performance testing inspection. The motorized rifle battalion under the command of Capt V. Pristenskiy, committed to battle from the reserve, was advancing deep in the "aggressor's" defenses. The motorized riflemen's onslaught was so swift that the "aggressor," who had been attempting to consolidate in an advantageous position, was forced hastily to withdraw.

Observing the attack from the side, one might think that Captain Pristenskiy was getting carried away with things. The battalion was attacking in platoon columns. This is of course a good thing for maintaining a rapid rate of advance. But would the companies be able promptly and expeditiously to deploy into battle formation if the "aggressor" attempted, let us say, to stop them with a counterattack?

As if hearing this unspoken question, the inspecting officer complicated the situation. Counterattacking "aggressor" tanks appeared on the left flank and ahead of the battalion frontage. Now, one thought, the "aggressor" can simply seize the initiative if Captain Pristenskiy does not bring his tanks in to direct fire, if he fails to swing one of the companies to face left, if....

The next minute, however, things became clear: the battalion commander was totally rejecting all "ifs." While the company under the command of V. Kozak held off the frontal assault by the counterattacking tanks, the adjacent company swiftly deployed frontage left, and the tanks attached to the battalion moved into direct fire. In addition, the battalion commander committed from the support echelon the subunit under the command of Capt A. Fisenko, moving it into the gap between companies. The "aggressor's" counterattack was thwarted. The motorized riflemen continued offensive exploitation.

"In the course of the attack the battalion commander, in my opinion, skillfully combined fire and maneuver, and the motorized riflemen swiftly negotiated obstacles and effectively utilized the capabilities of the weapons and combat equipment," stated Lt Gen K. Kochetov, commander of the Southern Group of Forces, commenting on this part of the exercise. Another detail was also noted: Captain Pristenskiy, in directing the subunits and their fire on forested mountainous terrain, had displayed enviable foresight. When the battalion began advancing into the forest, for example, he ordered additional patrols sent out to beef up

the reconnaissance effort, and he first sent armored personnel carriers across the clearcuts followed by tanks, so that if necessary the motorized riflemen could protect the tanks against antitank weapons fire. The most dangerous stretches of forest had been swept in advance by motorized rifle subunits specially assigned to this mission. Only after this did the combat equipment pass through.

Captain Pristenskiy had chosen this tactic for good reason. In the course of officer training in his regiment, considerable attention is focused on teaching officers how to operate in complex conditions. Combat experience is aggressively utilized. Innovatively applying it in carrying out mock combat missions, the officers frequently achieve success against an aggressive "adversary." This was also true in this instance. The battalion commander employed tactics which had been used by Soviet commanders in the battles to liberate Hungary from the German-fascist invaders, including in the Budapest Operation.

For two years running the battalion under the command of Captain Pristenskiy has been a competition winner.

"There is in gunnery theory the term quadrant elevation," stated an officer from higher headquarters, describing the battalion's road to success. "This is an angle calculated taking into account the influence of specific firing conditions. Without correcting for error caused, for example, by meteorological and ballistic factors, do not expect accurate fire. To make an analogy, Pristenskiy calculated the battalion's quadrant elevation very precisely in the course of competition, taking every factor into account."

I believe that this comparison is valid. At the inspection exercise the battalion advanced confidently from one point to the next, and became the regiment's best in all indices.

Both officers and enlisted men go through a fine school of conditioning and skill here. Just this year, for example, five officers have received promotion. Four have become company commanders, and one has been named battalion executive officer. Captain Pristenskiy deserves considerable credit for this as well. He knows how to work with others and to rely on the party organization. He himself is a member of the regimental party committee.

After the exercise we got together with him again.

We talked about the just-completed exercise and about what lessons must be learned from it in order to continue to advance and achieve more in the new training year.

"Of course we are pleased with the high marks," stated Captain Pristenskiy. "But many weak points were also revealed. Take, for example, matters pertaining to teamwork and coordination with the tank and artillery subunits. There is work to be done here. And we can learn from others. Fine experience has been amassed in the neighboring regiment in competition with us, particularly in the battalion under the command of Lt Col V. Terekhin."

The battalion commander was right. The neighboring regiment has indeed long been conducting joint training drills involving infantry fighting vehicle gunner-operators, machinegunners, RPG men, and other specialists. Performing tactical and fire missions and executing various scenario instructions, they improve their teamwork and cooperation. At the same time company commanders, platoon leaders, squad leaders and vehicle commanders work on mastering techniques of fire control with varied weapons. It is not surprising that Captain Pristenskiy drew attention to this. He sees his task as adopting the know-how of his competition rivals in the new training year. How can this best be done? They must think about this when planning officer demonstration exercises scheduled for the near future.

There are also other items on which the battalion commander and all battalion officers must work. For example, the fire delivered by the company under the command of Captain Fisenko, which was operating on mountainous terrain, proved inadequately effective at the exercise. Obviously things should be organized here so that weapons training is conducted more frequently on a mountain-terrain moving target gunnery range. And they were conducted in a quality manner, in strict conformity with the requirements of guideline documents. Of course it is easier to obtain excellent results on flat terrain. And certain exercise directors sometimes take advantage of this fact.

The people in the battalion see as another way to improve the battalion's tactical and fire proficiency increasing effectiveness of competition on tasks and performance standards so that each and every training activity is permeated with a spirit of competition. This was not given proper attention everywhere in the current training year.

The results of this past year are being analyzed in a demanding and business-like manner in the battalion. At meetings of officers, warrant officers, and enlisted personnel. A meaningful discussion on how more fully to utilize available opportunities to achieve further improvement of the training process was also held at the report-election meeting of the battalion Communists. One assumes that this will help increase the activeness of personnel in the campaign to achieve new performance levels in combat proficiency.

Motorized Rifle Units' Night Training Evaluated

Moscow KRASNAYA ZVEZDA in Russian 12 Nov 82 p 2

[Article by Gds Maj Gen F. Kuz'min, commander of the Irkutsk-Pinsk Guards Motorized Rifle Division imeni RSFSR Supreme Soviet: "Night Training of Troops"]

[Text] If I were asked right now what element of the performance evaluation inspection which took place in the concluding phase of the training year was the most memorable, I would say that it was the night exercises with live fire, and not only because such exercises are themselves impressive and constitute the most difficult test in troop combat training. In addition, their results were of particular value to us, since at the beginning of the summer period of training the situation regarding night training in some of the division's sub-units was frankly nothing to write home about.

I recall an exercise in one of the regiments. The motorized rifle battalion under the command of Gds Maj V. Mazyuta, having broken through the defense, began pursuing the retreating "aggressor." Although the initiative was with the advancing troops, they were also having a hard time of it: from time to time the "aggressor" would put his artillery, antitank weapons, and helicopter gunships into action. Nevertheless Guards Major Mazyuta, skillfully maneuvering his men and weapons, steadily led his battalion forward.

But then dusk fell over the battlefield, and there was an appreciable decrease in the resoluteness in the actions of the battalion commander and his men. Soon mistakes were being made in command and control of the subunits. The battalion was forced to dig in at the point it had reached.

Figuratively speaking, the echo of that night engagement reached division headquarters. Analyzing the reasons for the motorized riflemen's failure, we discovered what in my opinion is a curious item: it seems that neither Guards Major Mazyuta nor the other officers of the battalion, in readying for the exercise, gave no thought whatsoever to the possibility that they might be compelled to fight during hours of darkness.

Similar deficiencies were also revealed in a number of subunits of other units of the combined unit. Urgent measures had to be taken to correct them.

Many deficiencies were corrected by the end of the training year. The final exercise showed that appreciable improvement had taken place in the proficiency of the enlisted men and NCOs. The officers and warrant officers were now doing a better job in night combat. Even at the end of the training year, however, when engaging in night drills and exercises, one could sometimes hear the echo of that distant night battle which we were discussing.

One can scarcely exaggerate the importance of night training of troops for gaining victory in combat. Every combat veteran will agree. It is also a well-known fact that it has not lost its significance in present-day conditions. But as experience indicates, many times it is not given proper attention. Why does this happen? I shall share some of my observations.

I have long noted that some, especially young commanders, when the subject of night exercises is raised, feel somewhat uneasy and take on what I would call a guarded look. And this is understandable to a certain degree: it is not easy, and a lot of bother to conduct such activities, for night places special demands on commanders. In particular, there is greater responsibility for observing security measures, for readying equipment and weapons, command, control and coordination become more complicated, etc. At times there are people who will strike a bargain with their conscience in order to avoid possible complications. Some attempt to work on "night" training topics at dusk. As soon as the sun has dropped below the horizon, the companies are already returning to the barracks. Others conduct training drills at night, but they operate in simplified conditions, sometimes not even bothering with blacking out.

When one encounters such instances, one always wants to turn to the invaluable experience of the Great Patriotic War. It has provided us with numerous

examples of how the ability to fight at night helped achieve success in battle even against superior enemy forces. The history of our division is also rich in such experience. I shall cite just a few examples.

Gale-force winds were blowing on that autumn night in 1943. A composite detachment under the command of Gds Sr Lt L. Butkov was crossing the Kerch Strait near the village of Opasnaya. At the foot of a hill the 30-man detachment engaged an enemy force which was four times as large. Quickly estimating the situation, Guards Senior Lieutenant Butkov made the decision not to defend but to attack. This was a bold decision, but it was reinforced by sober calculation. Provided with covering machinegun and submachinegun fire, the strongest and most agile men, at Guards Senior Lieutenant Butkov's command, swiftly advanced and attacked the Hitlerites with grenades. This was followed by a determined assault. The fascists were crushed.

The intrepid commander three times led his men in an assault that night. Displaying boldness, resoluteness, the combat veteran's quickness of mind, and operating skillfully in the darkness, our fighting men threw the enemy camp into panic. For exemplary accomplishment of the mission assigned by the command authorities, which fostered the overall success of the regiment's offensive, Gds Sr Lt Leontiy Butkov was awarded the title Hero of the Soviet Union.

The amphibious landing operations at Novorossiysk, in the fighting to liberate which our division took active part as an element of the 18th Army, were as a rule executed at night. Not only companies, battalions, and specially trained detachments fought night actions, but also regiments and the entire division as well.

Thus fought our fathers and grandfathers. We see in innovative application of their experience, including experience in the conduct of night combat actions, one reliable way to achieve further improvement in the proficiency of the division's subunits and units and to achieve new and higher performance levels in competition and in the movement for leading combined unit.

Readying for the new training year, and in particular organizing appropriate work directed toward improving the professional skills of officers, division headquarters and the political section, unit commanders and staffs naturally are making use both of combat experience and the experience of exercises and maneuvers held since the war.

We consider further improvement in officer skills in commanding and controlling subunits and units to be one of the main tasks in the coming training year. This is one of our most urgent tasks, dictated by the revolution in military affairs. Is it necessary to state how much in accomplishing this task will depend on training troops to operate in special conditions, including at night?

I could name a great many commanders who are distinguished by the ability to command and control diversified forces in night combat. At the final field exercises they demonstrated once again in a practical manner that success in night combat depends to a decisive degree on how fully a commander utilizes those advantages offered by the hours of darkness both in offense and in the defense. Take, for example, the following episode.

The battalion under the command of Gds Lt Col B. Vetyut'nev was assigned the mission of breaking through the "aggressor's" defense on a certain defensive line in a night action. Realizing that it would be very difficult to accomplish this, since the defending forces had been able to dig in solidly, the battalion commander resorted to a stratagem. Stealthily, but so that the "aggressor's" reconnaissance spotted it, he moved up from the support echelon to the right flank the company under the command of Gds Capt A. Shvedov. In this way he simulated a concentration of forces on the right flank. When the "aggressor" "took the bait" and proceeded to take response measures, Guards Lieutenant Colonel Vetyut'nev, now in complete secrecy and unobserved, shifted the company to his left flank, from which the main attack was launched.

This would not seem to be such an artful maneuver. But during hours of darkness it proved to be highly effective, since in the dark it is difficult to determine what forces are being used to launch an attack. Being thoroughly familiar with the nature of night combat, the battalion commander was able to utilize to his own advantage all factors which promote success.

But unfortunately we also have examples of a different kind. Performance evaluation has shown that command and control of diversified forces in night combat continues to remain a stumbling block for some officers. This is due primarily to deficiencies in their professional training and unnecessary relaxation of demands in training. We must confess that in the summer period of training we had instances where night exercises were conducted in simplified conditions, including exercises with officers. Measures are presently being taken to ensure that night training of personnel proceeds more effectively in the coming training year. The lessons of the performance evaluation are being taken into account in planning the training process, including in the officer training system. In particular, one of the tasks which we are assigning commanders of all echelons is to ensure that each and every night small-arms and tank gunnery drill mandatorily end with work on fire control at the subunit level employing night vision devices and communications gear. The know-how and experience of commanders who have achieved the best results in night-training their men have been synthesized.

I believe that our goal of achieving further improvement of night training of subunits and units is the proper course to follow. And the more we do to accomplish this now, the greater will be our chances of success in the future.

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NAVAL FORCES

POLITICAL ALERTNESS DISCUSSED

Moscow AGITATOR ARMII I FLOTA in Russian No 10, May 82 (signed to press 10 May 82)
pp 14-16

[Article by Capt 3d Rank V. Magas, Red Banner Northern Fleet: "Vigilance of the Underway Watch"; passages rendered in all capital letters printed in boldface in source]

[Text] At the start of a long cruise the party committee of an antisubmarine warfare [ASW] ship conducted a session at which the tasks of indoctrinating the communists and all personnel in a spirit of high political vigilance were examined. The crew operated in the immediate proximity of NATO ships.

"Where, if not on a cruise, is it best to instill political watchfulness and class vigilance?" stressed party activist Captain-Lieutenant V. Chernov in expressing the common opinion.

An harmonious system for instilling in the men watchfulness, class vigilance, and a burning hatred for imperialism has been formed on the ship. After the session of the party committee, party and Komsomol meetings took place in all subunits at which questions of vigilance were examined in an inseparable connection with a rise in combat readiness and the strengthening of discipline and order. Talks and lectures were conducted regularly. The ship's activists prepared all these measures thoroughly and thought things out to the finest details in trying to fill them with a profound content. Nor did they forget about the emotional aspect of the matter. For example, a talk, "U.S. Naval Forces in Imperialism's Aggressive Plans," was accompanied by a viewing of the photo newspaper, "Aggressor Alongside" and film strips which comment on the performance data of NATO submarines, surface ships, and airplanes.

On the cruise, the ship had to work out missions in an area where one of the American aircraft carriers was located and which, according to the assertion of Western propaganda, is the "pride of the nation." But our seamen knew well that it was namely from this ship that airplanes took off to bomb the peaceful cities and villages of Vietnam. Many propagandists and agitators spoke over the ship's radio relay system. The main content of their talk was the thought: yesterday the weapons of aggression were used against the peoples of Laos and Vietnam, and tomorrow they may be used against your motherland.

On the request of Komsomol activists, subunit commanders and political officers appeared before the men. They told about the "hottest" spots on the planet and the perfidious designs of the American militarists which are directed against the USSR and other countries of the socialist commonwealth. The talks were accompanied by the showing of documentary films, for example, "The Quiet Americans," which told of the intrigues of the CIA. The listeners also learned about submarines--"the killers of cities." The young seamen visually pictured that this entire arsenal of weapons can be directed against their motherland.

In instilling hatred for imperialism and bourgeois ideology, at the same time the party and Komsomol activists did everything to instill in the personnel the most ardent love for their socialist fatherland and profound devotion to the ideals and cause of the Communist Party. For this, in particular, wide use was made of letters of veterans of the war and labor addressed directly to the crew. A correspondence which was organized and is being maintained by the activists of oral agitation is being conducted with many of them. It takes up much time, but so much more convincing do the calls to strengthen combat readiness and political vigilance and to cherish the motherland as the apple of their eyes sound if they are accompanied by the words of those who shed their blood for the cause of October and displayed heroism in peaceful labor.

Here, I should especially like to stress this thought. The practice and experience of a long cruise showed: HOWEVER EFFICIENTLY AND WITH FULL RETURN GENERAL MEASURES MAY BE CONDUCTED, THEY CANNOT ACCOMPLISH IN FULL MEASURE THE TASKS FOR INSTILLING VIGILANCE IF THEY ARE NOT SUPPLEMENTED BY PURPOSEFUL, SKILLFULLY SET UP INDIVIDUAL WORK WITH PEOPLE. This conclusion was drawn in the crew already at the very beginning of the cruise. And these are not simply words. They are constantly being confirmed by practical deeds.

...A drill of the radio operator-observers was under way. Senior Seaman A. Rozhkov suddenly noticed on the scope an oblong blip which differed from the others. There was no doubt: an actual target had landed in the field of view of the ship's radar equipment.

The operator's vigilance did not remain unnoticed. First of all, it pleased the Komsomol activists. For it was namely Rozhkov who was once heard at a session of the Komsomol bureau and he received a number of rebukes for carelessness while standing watch and for the fact that at times he was late with his reports on aerial targets.

"Do you know," Petty Officer 2d Class A. Chudin turned to him, "what distance an airplane covers if you delay even several seconds with your report?"

His comrades spoke with emotion; in so doing they also spoke of political vigilance. And Aleksandr understood that it consists not only of the keeping of military secrets, as he believed earlier, but also of standing watch and of everything connected with his service. Then he firmly promised his comrades: "There will be no more complaints against me."

The seaman kept his word. But this case again convinced the activists that it is necessary to delve more deeply into all aspects of the life of the collective and of

each seaman and to display greater devotion to principle, initiative, and combat vitality. The lesson was to the benefit of the entire Komsomol organization. The following facts, for example, testify to this.

One day, in analyzing the results for the week the activists discovered that the watch schedule had been drawn up without sufficient consideration of the individual qualities of some of the men. They proposed strengthening the relief which included young Seaman V. Senyuk with an operator who has sufficient experience in servicing the materiel. Another time, they asked the commander to reduce the grade for the section which included Petty Officer 2d Class A. Chudin for poor communications with the gunnery radarmen.

"To discover a target is still not everything for the use of weapons," the bureau members gave reasons for their proposal, "complete cooperation is necessary."

Soon a Komsomol "raid" on the battle stations was conducted which permitted disclosing reserves for a further rise in vigilance on watch. The participants in the raid reported their remarks and suggestions to the commander. Many of them were adopted and were of undoubted value for the matter.

The following example is also instructive. On the cruise, Petty Officer 2d Class O. Sapayev violated the instructions for duty-watch service. His comrades strictly condemned his delinquency at a session of the Komsomol bureau. They warned him that next time he will be made answerable to the Komsomols for blunting vigilance.

The members of the bureau did not limit themselves to hearing Sapayev. In all Komsomol groups meetings took place at which it was said that indiscipline and carelessness in standing watch must be regarded as political immaturity.

The work which has been done is bearing fruit. The men are striving to regard their service duties with a high sense of responsibility and are displaying class vigilance in the evaluation of events and the international situation. Evidence of this is the fact that the crew of the ASW ship not only accomplished successfully all missions of the long cruise but also, according to the results of the winter training period, is one of the right guide crews of the socialist competition in honor of the 60th anniversary of the formation of the USSR.

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NAVAL FORCES

NAVAL AVIATION: TRAINING AND RELATED ACTIVITIES

ASW Exercise Over Barents Sea

Moscow KRASNAYA ZVEZDA in Russian 6 Jun 82 p 2

[Article by Lt Col V. Kaz'min, Red Banner Northern Fleet: "Squadron Commander"]

[Text] It would appear that nothing had changed since we last saw Aleksandr Dedukhov. We are again sitting alongside one another in the cockpit of a naval aviation ASW [antisubmarine warfare] aircraft and four powerful engines take us away upward through the dank darkness in the clouds. His hands on the steering wheel direct the aircraft over the route to the assigned area of the Barents Sea so confidently. And I recall another flight which took place five years ago.

...The search pattern became visible as we approached the area where it was not the first time that the ASW airmen conducted a stubborn fight with an "enemy" submarine. The squadron executive officer, Captain Dedukhin, keenly picked up voices in the air. Evidently, short radio reports and commands caused the necessity to review something --he turned over control to his assistant and began to calculate something on the plotting board.

The crew's navigator, Captain V. Volosatyy, knew the commander's ability to delve quickly into the essence of a matter. He noticed it again this time, when Dedukhov was a co-pilot: at that time both had already flown together. However, this time, too, he was amazed by the operativeness and tactical sharpness of the pilot. Reporting to the commander of the hunter-killer group (PUG) on their arrival in the assigned area, Dedukhov immediately informed the navigator:

"We are coming out on a course of 130."

"Why not 90, commander?" asked Volosatyy with doubt, evidently thinking that Dedukhov made a slip in speaking.

"I did not make a mistake...."

The explanation was short-spoken, but fully convincing. And when, in accordance with the new concept, the crew dropped a refining radiosonobuoy, it soon "responded" with the typical signals of detection of a submarine.

"I am observing the operation of the buoy," Captain Dedukhov established communication with the PUG commander. "Will you permit receiving contact from the target?"

He assumed great responsibility. Risk? Perhaps. For in accordance with the conditions of the assignment he had been allotted a much more modest role. But in the situation which had arisen, Dedukhov quickly understood that his crew had found itself in a most advantageous position, and he could not fail to exploit it even at the risk of getting his "lumps" in case of failure.

The group commander also considered the advantages of the crew which had entered into battle. Having received permission, Captain Dedukhov firmly maintained contact with the "enemy" submarine as long as the supply of fuel on board permitted.

That year the crew headed by Alekdandr Grigor'yevich accomplished all ASW assignments with an average grade of 4.9 points--the highest index in the squadron. And the detachment which he, the deputy squadron commander, commanded at the same time achieved high grades in socialist competition. Suffice it to say that the number of rated specialists then increased to 94 percent.

I recall that this time I inquired of Dedukhov: what helped you to work so successfully on the exercise?

"The navigators were excellently selected," he answered.

And the navigator, Captain Volosatyy, to whom I turned later said as follows:

"With such a commander one simply cannot work below his capabilities!"

And he cited two incidents.

"On one of the exercises," the navigator related, "our crew was in reserve. But nevertheless, the commander required that each assignment accomplished by our comrades be worked out in all its elements. On the ground we worked with a load which cannot always fall to the lot of the crew even in flights.

"Another time," the captain continued, "it was announced in the regiment that a difficult flight mission was forthcoming. Its most difficult elements were connected with crossing a zone where many air routes pass. Here, the highest vigilance and navigation accuracy were required. Everyone knew that the slightest error and the grade for the flight would be sharply reduced. And not everyone, it must be owned, went on such a mission willingly. And how did Dedukhov proceed? He himself on this difficult flight. And he received an excellent grade for its accomplishment...."

What is this, luck? See how this officer climbed up the service ladder with enviable acceleration: in six years--the fourth duty grade. He became the squadron executive officer, hardly having crossed the threshold of his 30th birthday. No, the essence here is not in luck.

Purposefulness and persistence.... These traits in Dedukhov's character are traced from the first days of his service. Being an officer candidate in the Orenburg Higher Military Aviation Pilot School imeni I. S. Polbin, he worked with great desire. He stubbornly went toward his dream. But not only for the sake of experiencing the perceptions of flight which cannot be compared with anything else did he

yearn for the sky. He instilled in himself the qualities of aerial fighter. He improved his ideological tempering. In the school, the communists took him into their ranks. And he strived to justify the high confidence. There was someone to take as an example of an attitude toward matters and service. It was his frontline fighter-father, Grigoriy Gavrilovich, a former artilleryman and battery commander who was awarded three Orders of the Red Star for military valor; he was accepted into the party during the hottest days at the front. It was also the wartime North Sea pilots whose combat traditions the young officer took with all his heart having arrived in the unit after graduation from the school.

I recalled that one day Dedukhov's crew, having become the winner in a most difficult duel with an "enemy" nuclear missile submarine, was ceremoniously greeted at the airfield with a band. The officer could rightly be proud of his contribution to the attainments of the ASW air regiment which had been awarded the Pennant of the Soviet Minister of Defense for courage and military valor. But at the same time, he experienced dissatisfaction with himself, and later he tried not to miss a single opportunity to take off for combat employment. He also worked on a combined simulator with enviable persistence and studied the equipment and its combat capabilities. He nurtured thoughts on several tactical innovations in the search for submarines.

Study in the academy where Dedukhov was soon accepted extended widely the horizons of his experience and knowledge. He successfully defended diploma work on the urgent subject of the search and tracking of submarines. In which regard, he already operated with all the forces of a regiment. His graduation efficiency report was signed for him by the then former head of department, Colonel General of Aviation S. Gulyayev, a famous attack-aircraft pilot and master of strikes against convoys of Hitlerite ships on the sea lines of communication of the Far North. "A promising officer," he concluded in Dedukhov's efficiency report, as if transferring a combat baton from hand to hand.

Dedukhov returned to the regiment in the post of squadron commander. Of course, he understood that his promotion in service is both great confidence and a higher degree of responsibility. Therefore, he undertook matters with redoubled energy. At that time, the subunit which he headed was not one of the best.

The squadron commander began to devote greater attention to raising the quality of commander's training. On his recommendation the squadron navigator, Major V. Zubkov, and first-class aerial fighters Major I. Sedyuk and A. Kireyev analyzed the experience of combat employment of ASW airplanes which was presented in special literature. They discussed the procedure for the conduct of tactical quickie exercises and drills with consideration of the combined use of means for the search and destruction of underwater targets. The squadron commander himself worked more with the flight instructors. He taught a procedure for the critique of flights and the ability to use recorders effectively.

The rise in intensification of the training process was furthered by an atmosphere of combat competition which the squadron commander always creates in the course of lessons, drills, and flights. For example, young crew captains were drawn into the competition for the most rapid and quality preparation of aircraft for repeated take-off. And the squadron commander considers it his duty that the experience of the best be effectively introduced into practice and becomes the property of all aviators.

In this, he relies actively on the assistance of the members of the party bureau. As a result, he succeeded in raising significantly the squadron's combat readiness. And in this training year, according to the results of the competition for the winter training period it emerged in first place in the regiment. Now the squadron commander has aimed his subordinates at winning the title of excellent small unit.

...The engines are evenly singing their song in flight. Three hours have already passed since our aircraft took off from the airfield near the hills at the edge of the land cooled by the severe breathing of the Arctic. In the red light of the night illumination in the cockpit the face and figure of the pilot sitting next to me seem to be hewn out of arctic granite.

Yes, much skill and courage are required to stand the sky watches with many difficulties above the seas and oceans in the Far North. And the flights are not the same. And today's flight, perhaps, proved to be similar to the one in which I had the occasion to participate earlier in only one respect: in the excellent result in the accomplishment of the combat-training mission.

Disabled Aircraft Landed Successfully

Moscow KRASNAYA ZVEZDA in Russian 10 Aug 82 p 1

[Article by Capt 3d Rank V. Shirokov and Capt-Lt V. Sadovskiy, Twice Red Banner Baltic Fleet: "Seconds Remained..."]

[Text] It happened in one of the air regiments of the Red Banner Baltic Fleet. Soon after takeoff an airplane piloted by flight instructor Guards Captain Timur Apakidze and Guards Senior Lieutenant Yuriy Moroz unexpectedly shook strongly at an altitude of several dozen meters. An analysis of the situation showed that a bird had landed in the engine.

The flight operations officer, hearing the report from on board the aircraft, ordered:

"Prepare to eject!"

Meanwhile, the heavy machine shook and the odor of burning appeared in the cockpit. If they eject, the airplane will fall at once. Where? Apakidze cast a glance at the side of the rocket carrier and his heart was stabbed by a chill--below was the building of a plant and squares of housing blocks. No, there was only one way out--to land the aircraft come what may. Even if they must risk their own lives for this. And Apakidze made a decision with which the flight operations officer agreed.

"Be ready for a landing!" Apakidze calmly warned Guards Senior Lieutenant Moroz. The latter answered just as calmly:

"Roger."

Later the pilots would evaluate this complete mutual understanding, self-control, and presence of mind. For the present, work of incredible difficulty was at hand. Seconds remained at the disposal of the crew. Seconds of risk and instantaneous estimates.

"We are going to land!" Apakidze transmitted to the ground. An instant of oppressive silence dragged on. They also made a decision on the ground.

"Land. We will support," the air reported to him.

Back when the airplane had just begun to shake, Apakidze tried to decrease the engine revolutions. But the vibrations from this became even stronger. It was necessary to retain the former mode. For the present, the aircraft did not lose precious meters of altitude. But it was as if the ground suddenly became closer. At any instant the engine which was out of control and operating in an overloaded mode could either stop or, even worse, disintegrate.

Apakidze decided to accomplish the approach to the landing strip, as the aviators say, "around the tail," by the shortest turn. The flight instructor had analyzed such a version of actions many times theoretically. He analyzed it on lessons with Moroz. This means that they should cope.

It seemed that everything came to a standstill on the airfield over which the aircraft executed the short turn and then, aiming for the gray concrete slabs, it began to slip downward steeply. The antennas of the homing radio station flashed beneath the wing.

"Lower landing gear, leading-edge slats, and flaps!" Apakidze ordered. In a normal landing all this is accomplished sequentially, at specific time intervals. But now Moroz accomplished all operations almost instantaneously. "He functioned clearly," Apakidze noted his actions in the instructor manner.

Near the very ground the aircraft shook even more strongly so that control of the aircraft was lost.

"Cut engine!" Apakidze developed his landing plan. "We are levelling out."

Moroz pulled back on the control lever. The nose of the aircraft was lifted somewhat. The wheels of the landing gear almost touched the concrete here. The running of the ground behind the windows of the saved winged machine's cockpit became slower and slower.

The entire flight lasted a little more than four minutes...

We found Guards Captain Apakidze at home in the evening. Of medium height, with an athletic figure, mobile, and emotional in conversation. He told about what had happened in the flight. And of course, about Guards Senior Lieutenant Moroz:

"I immediately paid attention to him when he arrived in the regiment as a young pilot. Yuriy is diligent in training. He has an open character. As we say, unstreamlined. He is not ashamed to state the truth to one's face. If he gives his word he will keep it and does not speak at random. I like that in people. He loves to fly and is attached to the sky by his heart. Whatever you show him or teach him--he assimilates it firmly.

"Did the crew take a risk? Perhaps it took a risk." Timur concludes, falling silent briefly. "But nevertheless, I felt and knew the aircraft should not let us down. And this means that we had the right to take a risk."

And again he continues to tell about Moroz and about how he executed the commands with lightning speed and clearly.

Soon we also talked with Guards Senior Lieutenant Moroz. He has served in naval aviation for four years and now is preparing to raise his rating qualifications. He dreams of being like the instructor, Guards Captain Apakidze, in everything.

"He is a first-class pilot," says Moroz. "He has a considerate and sympathetic attitude toward young pilots. He both teaches and encourages with a joke. As a communist he is an example in everything. On flights and in life. We consult with him and share our innermost thoughts. Alongside such people everything is within one's power. And here in this flight. I only heard the calm, confident voice of the instructor and I understood--we must land the aircraft."

"In those seconds, we did not think of what they will call our deed," Yuriy concludes the talk. "There was one goal, one thought--not to let the airplane fall on the houses and on the plant."

Their deed was called an exploit. For courage and skill displayed in a difficult flight situation, the commander of the fleet's air forces, Colonel-General of Aviation A. Pavlovskiy, awarded Guards Captain Apakidze and Guards Senior Lieutenant Moroz valuable gifts.

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NAVAL FORCES

NAVAL INFANTRY: TRAINING AND RELATED ACTIVITIES

Night Assault Training

Moscow KRASNAYA ZVEZDA in Russian 15 Jun 82 p 1

[Article by Maj L. Bleskin, Red Banner Black Sea Fleet: "In the Assault Wave"]

[Text] The night sky began to brighten when the ships of the landing force, having concluded the sea crossing, headed for the shore. Standing on the deck of the landing ship with binoculars in hand the commander of the tank company, Captain Yu. Orlov, was pleased because it will be simpler to approach the shore under the cover of fog. But, what does simpler mean? Despite the fact that prior to the disembarkation of the landing force aviation and naval gunfire had launched a strike against the shore, surviving "enemy" strong points continued stubborn resistance. Captain Yu. Orlov was to attack these points.

To be in the assault wave is special confidence. And it was merited by the company, competing for complete interchangeability in the crews and for pin-point destruction of targets at maximum range. Much had been done for this in the winter training period. The technical, march, and fire training of the tankmen have increased. The tactical and methodological skill of platoon leaders Senior Lieutenants G. Meleshkevich and V. Nekhayenko was increased, which contributed to a rise in the effectiveness of the lessons. A large number of training sites were set up for tactical-shooting drills. This provided the opportunity to organize competition by tasks and standards more clearly.

The final preparations for the landing were concluded. Freed from the lashing chains, the tanks were ready to move forward with roaring engines. The panels of the gates opened out, a light struck the semidarkness of the tweendeck, and the ramp was barely on the bottom when the lead tank of Captain Yu. Orlov tore into the assault. The landing troops pressed against the armor. The "enemy" opened fire. But no longer could anything stop the offensive rush of the landing force.

A combat reconnaissance patrol headed by Senior Lieutenant T. Meleshkevich takes off into the depth of the beaches to define in detail the disposition of "enemy" personnel and weapons. The battalion commander did not select Meleshkevich for this mission by chance. This officer masters well the art of reconnaissance and is a competent tactician. And really, his subordinates use the equipment and weapons skillfully and are excellently prepared physically.

Moving along the route the platoon under the command of Senior Lieutenant G. Meleshkevich reached a bay. To go around it along the shore means losing time. The officer makes the decision to make an assault crossing of the water obstacle.

The wave action of the sea in the bay was considerable. Only several months ago in such a situation Meleshkevich would not have given the command to prepare the tanks for movement afloat. One day, in almost the same situation a tank commander, Sergeant N. Ped', displayed indecisiveness in controlling the crew during the assault crossing of a water obstacle. Then it was necessary for the senior lieutenant to take over driving the tank. This time the platoon received a "four" both for driving and for firing. But the case forced the officer to intensify the professional and psychological training of the landing personnel.

In order to overcome the fear of water of individual tankmen, the senior lieutenant conducted several additional drills at the water training area in working out the actions of the crew with the entry of the combat vehicle into the water. Each time, on lessons, drills, and exercises he tried to create a situation approximating one of combat and he demonstrated a personal example of active, bold, and decisive actions.

And now the command vehicle is the first to enter the water. Half the water obstacle was to the rear when the scouts discovered an "enemy" strong point on the opposite shore. Literally seconds were available to the tankmen to accomplish the necessary calculations for firing. The platoon leader was the first to open fire. The shell covers the target. Two others also go for a hit. The fire of the other crews is also accurate. The mission for the destruction of the strong point was accomplished with a grade of excellent.

...The difficult battle for the beachhead died down. Returning to their unit disposition area, the naval infantrymen serviced the equipment and cleaned the weapons. And then Captain Yu. Orlov assembled the company officers in order to sum up the results of the training battle and analyze the course of accomplishment of socialist obligations.

Hand-to-Hand Combat Training

Moscow KRASNAYA ZVEZDA in Russian 24 Aug 82 p 1

[Article by Sr Lt A. Veledeyev, Red Banner Northern Fleet: "In Hand-to-Hand Fighting"]

[Text] The short arctic twilight crawled in unwillingly, without hurrying. This is all that the summer here leaves of the night. But even this was awaited with impatience by Senior Lieutenant K. Kalinin, Warrant Officer [praporshchik] Ye. Gribovod, and Sergeant V. Danchenko. While it was still daytime, they secretly landed on a remote section of the rocky coast, far from the "enemy" disposition. Making a multikilometer path over the tundra, they made their way unnoticed toward the object which they were to seize.

Senior Lieutenant Kalinin had already look at the dial of his "Commander" watch long ago. Several minutes remained to the relief of the guard. And even if it is almost light as formerly, it is night according to the "enemy's" schedule. And for the scout, such a light night is a gift....

Gribovod "relieved" the guard at the entrance to the premises. Crawling toward the fence, he raised up suddenly to his entire almost two-meter height--and the guard found himself in the vise of a deathly grip. And everything further proceeded swimmingly. With two motions, Senior Lieutenant Kalinin pushed away from a rack with arms a soldier who happened to be in the way, and Sergeant Danchenko instantaneously cut off communications and signalling.

A gap appeared on the section of the shore defended by the enemy. And soon the forward detachment of the landing force passes through to the defenders' rear here, without delay....

The field uniform of a naval infantryman looks effective on Senior Lieutenant Konstantin Kalinin. Well proportioned, slightly spare, a special, flexible strength is felt in his every movement. By the way, in the naval infantry all people are select--tall and perfectly developed physically. However, even among them Kalinin, by the way, he is a candidate master of sport, is distinguished by excellent training.

Considerable physical loads lay on the naval infantrymen in the course of the landing and the battle for the beachhead. It is for this very reason that they must possess immunity against sea-sickness, increased endurance, a well-developed reaction to unexpected changes in the situation, and the ability to overcome difficulties of camp life in the tundra, often with the limited supply of hot food and water. These qualities are doubly necessary for the scouts of the naval infantry whose lot it is also to proceed ahead. Their errors or blunders may cost dearly. And therefore they have a special responsibility.

Of course, the mission which was accomplished by the group headed by officer Kalinin could have been accomplished differently. However, in our situation it was not by chance that the scouts employed what would appear to be the most archaic method for the conduct of battle from the viewpoint of contemporary tactics--hand-to-hand fighting. For in contemporary battle a situation of breast-to-breast or face-to-face is not excluded. And then one blow worked out to perfection with a bayonet, entrenching shovel, or simply the hand may decide not only the soldier's personal success in single combat, but also the outcome of the battle. So that it is not by chance that in the naval infantry, and especially for the scout, such great significance is attached to hand-to-hand fighting.

Once, during exercises, the reconnaissance group headed by the same Senior Lieutenant Kalinin was assigned the mission to make its way unnoticed to ships which had been moored at piers. A difficult mission: everything there was too much in sight. How could they approach the guardhouse covertly here?

But nevertheless, the group operated neatly. Several very sharp clashes one after the other at the guardhouse, in the guardhouse itself, and further, like in a movie--a game with disguise. But in these brief moments it was required that not the slightest error be committed. One shot, one scream would mean that the group wrecked the accomplishment of the mission. But everything turned out rapidly and adroitly for the scouts.

I had the occasion to see how their training is conducted while attending one of the drills on hand-to-hand fighting. It was conducted by Warrant Officer Ye. Gribovod. As they say, this was what remains behind a battle sequence: Difficult, strained, not always turning out and more monotonous than interesting. First, in the course of the drill the warrant officers and seamen only simulate blows. In designating the attack, the attackers stop the blow several millimeters from the most vulnerable sections of the defender's body. But this does not mean that it is permitted to work at half strength. And in such "contactless" fighting it is necessary to learn to concentrate all power in the blow. Second, and this is especially heavy labor--increasing comprehensive physical preparedness, working out the elements of future procedures, developing psychological control of one's body, the accomplishment of exercises for endurance....

But if there is a goal then everything that a person does acquires interest. And we cannot fail to note that the naval infantrymen are operating on the simulators with enthusiasm. They know well how the skillful mastery of the procedures of hand-to-hand fighting helped their fathers--the fighters in the Great Patriotic War.

Recalling in the book "Malaya Zemlya" the assault landing personnel under the command of Ts. Kunikov, Leonid Il'ich Brezhnev writes: "Assault groups trained on Cape Tonkiy in Gelendzhik; they were taught to jump into the water with machine-guns, climb up cliffs, and throw grenades from uncomfortable positions. The fighters mastered all types of captured weapons, learned to throw knives and kill with rifle butts....Without this training a bold assault and, especially, the very first night fight were unthinkable...."

Using the experience of the frontline fighters, in the naval infantry great attention is devoted to training the men for hand-to-hand fighting.

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NAVAL FORCES

SUBMARINES: TRAINING AND RELATED ACTIVITIES

Missile Firing Exercise Discussed

Moscow KRASNAYA ZVEZDA in Russian 19 Jun 82 p 1

[Article by Sr Lt V. Gromak: "Ocean School"]

[Text] The Sun.... It is the first thing that Captain 1st Rank Vasiliiy Alekseyevich Poroshin saw having climbed up on the bridge. It shone completely from the south, dropped its rays on the very cold sea, and scattered over the sea's mirror-like surface in patches of light. The bright light blinded the eyes, but it was even pleasant to squint: in these latitudes the seamen are not very spoiled by calms and the Sun. But nevertheless, there was another reason for the elevated mood: the only thing which brings genuinely profound joy to a military person--the successful accomplishment of a mission.

...The submarine reached the assigned area at the designated time. They awaited an "OK" for missile firing. But the signal did not come. And time passed. The long spring day burned off and grew calm. The stars shone over the sea. Probably some serious reasons prompted the command to delay the accomplishment of the combat exercise. But it was not easier for the crew because of this. It was namely the tension of waiting that was especially distressing and difficult for the seamen. The mood drops, fatigue increases. And errors which people do not commit in regular situations occur most often just after such long waiting.

Captain 1st Rank Poroshin knew this well. He also knew that the skill of the commander and senior chief is not only in the competent tactical and technical accomplishment of the mission, but also in the ability to maintain the crew's strength and its fighting attitude despite everything.

The missile attack began at last. It ended with a direct target hit.

After all the emotional experiences, overloads, fatiguing waiting, and strained labor it is good to break surface and to see the sun in the periscope as if a reward for everything done in the deep.

Just as a person does not count the days spent at a machine tool or behind a desk in his office, so did submariner Poroshin never count the days spent in the sea. For this is also his main work--the most difficult, the most important that you live all the time--even in those comparatively rare days on the shore.

It would appear that in youth, while strength is still fresh, is the very time for the seaman to sail, and the load should be reduced with age. But judging from how much he sails, Vasilii Alekseyevich's youth is in its very prime. And the air of the ship compartments is uniquely life-giving for him. And you see, he long ago bade farewell to the crew which called him the commander of a ship. For a long time already he is on submarines as a senior chief.

And here, this time, he went out to missile firing as the senior chief with a crew which had returned from a long cruise.

As a practical matter, Captain 1st Rank Poroshin did not interfere in the commander's activity. But his presence calmed the seamen--and this means much. They love to go to sea with Poroshin. He is always calm, self-possessed, and business-like. He likes people on a cruise to work with a good output, but he is able to so load them with such work that they themselves understand--there is no getting by without it, it is extremely necessary for them, and they will soon become aware of the result of their labor.

On this crossing to the firing area, Captain 1st Rank Poroshin proposed a check drill for the ship's combat crew. Not everyone understood immediately how he managed to note the weak aspects in the work of the crew but, in return, they all soon felt that the senior chief is proposing that the specialists drill namely in those things in which they are weak for the present. Already in the course of the drill, in performing actions which had been worked out many times in a concentrated manner, many thought that everything is proceeding without the slightest hitch. Captain 1st Rank Poroshin, it seemed, was least interested in what is occurring in the central control compartment. But when the critique was begun, no one was surprised that the senior chief remembered the drill down to the finest details.

...Vasilii Alekseyevich Poroshkin was born in the family of a worker. In a large family: three brothers and three sisters. His labor biography began as a hammer-man. Later he completed the higher naval school with a gold medal.

A workingman's labor mettle was the star of all of Poroshin's talents. And whatever he undertook--he was successful in everything. In one of the efficiency reports on Vasilii Alekseyevich it was written: recommended for scientific-research work. But nevertheless, most likely, Poroshin was born a seaman first of all. A different future was determined for him, and he was sent to study a different specialty. But all the same, he returned to the fleet and, as he had dreamed, he became the commander of a ship.

The submarine which Poroshin commanded was excellent, and the crew achieved indices in much which remain an example for submariners even today. This is not an exceptional achievement for Poroshin. He is accustomed to striving for superiority and achieving it. And the words of the Soviet Minister of Defense, Marshal of the Soviet Union D. F. Ustinov, proved to be profoundly symbolic for the characteristics of this officer when awarding Captain 1st Rank V. A. Poroshin the order, "For Service to the Motherland in the Soviet Armed Forces," 1st class. He said that he is the first full bearer of this order in the Navy.

"Good work!" said the Minister, and he kissed the officer.

The motherland evaluated highly the boundless devotion and irreproachable service of its loyal son.

Channel Mining Exercise

Moscow KRASNAYA ZVEZDA in Russian 11 Jun 82 p 1

[Article by Capt 2d Rank V. Sogulyakin: "The Channel is Closed"]

[Text] The mission which the submarine crew received was not one of the easy ones. It was to approach one of the "enemy" bases secretly and mine the channel which he uses for ships to enter and leave the port.

There were still many miles to the area for the accomplishment of the training mine laying, but in the central control compartment the work was already in full swing to the utmost extent. The commander of the ship together with his senior assistant, Captain-Lieutenant V. Konovalov, the navigator, Senior Lieutenant A. Chernyshev, and other officers studied the approaches to the "enemy" base, the nature of the coastal features, and the relief of the bottom from a map again and again. It was important to determine where and namely in what place the "enemy" could make a channel for his ships. The key to the success of all the mine laying was in the accuracy of the solution of this problem. This is proven by numerous examples of successful operations of submariners in the years of the Great Patriotic War. And it is not by chance that in discussing variants of their actions in the training battle the officers recalled many of them. They recalled, for example, how in August 1941 the submarine "Kalev" accomplished mine laying skillfully. Two enemy vessels were blown up on mines which it laid. The combat success of the submariners was ensured by the fact that they made a deep analysis of the situation which had developed then and were able to perceive the logic of the enemy's actions and foresee his plans.

Just how will the opposing side operate in today's training battle? Where may the channel be? At first, the submarine officers answered this question differently and expressed different assumptions. But in the final analysis, they all came to the same conclusion: the tactical background of the exercise is such that the "enemy" should first try to secure his own ships from submarine attacks. Consequently, he will select the channel where the actions of the submariners are most difficult. And really, he most likely will begin to lead the ships out secretly, during darkness.

And here the submarine is approaching the base. It is necessary to move over a shallow, navigationally very difficult area. There is silence in the compartments and the water can be heard burbling outside the ship. Warrant Officer [michman] N. Petrenko attentively stands sonar watch. The small beam of the sweep races uniformly over the circumference of the scope, showing that there are no targets. But here a small blip appears. The warrant officer reports instantaneously to the officer of the watch, Lieutenant V. Potapov:

"Target at bearing.... Bearing to the stern changes. Noise intensity increases...."

The entire ship's combat crew joins in the work. The seamen try to determine the elements of the target's movement with great accuracy. This permits them to be convinced of the correctness of the assumption on the location of the channel. Soon the submariners intersect one more target. It is following the same path as the first one.

Now no doubts remained. The channel being used by the "enemy" has been precisely determined.

"Prepare the torpedo equipment for firing mines," the command sounds.

The submarine accomplishes the necessary maneuvering. And everyone's eyes turn to Senior Lieutenant A. Chernyshev. He, the navigator, should determine precisely the point to begin laying mines. All stood stock-still. The chief of the torpedo section, Warrant Officer M. Lisovoy, holds his hand on the firing panel.

And here the ship is at the point. Fire! The submarine quivers. The first mine lays on the strictly assigned point. Behind it a second, a third.... Finally, the last.

The channel is closed.

Tending the Submarine's Reactor

Moscow KRASNAYA ZVEZDA in Russian 18 Jul 82 p 2

[Article by Capt 2d Rank Yu. Timoshchuk, political officer of a submarine: "Watch at the Reactor"]

[Text] In making his decision to break through an antisubmarine barrier, the submarine commander listened to the proposals of the officers of the ship's combat crew. The proposals were contradictory. In generalizing them, the commander of the ship used most of all the recommendations of Engineer-Captain 2d Rank V. Shestakov. The director of the exercise noted this.

"You are giving preference to the opinion of the engineering officer. What is the basis for this?" he inquired.

"My confidence in his competence, comrade rear admiral," the commander answered. "Here the level is high."

"Well, the admiral noted, "we will actually check the accuracy of your estimates."

The crew had to work with very great strain on the exercise. The concept required sharpness of execution. A mistake by any member of the ship's combat crew could cost dearly. But in return, the maneuver proposed by Shestakov turned out to be genuinely bold, swift, and as always happens with skillful execution, somewhat simple. As a result, the "enemy" was unable to hamper the nuclear vessel in time and secretly occupy the area for launching a nuclear strike.

Upon return to the base, having already descended on the pier, the admiral turned to the commander:

"So, you say, a high level?" and he smiled: "You have a good engineer officer. Truly a master."

Strictly speaking, this praise did not reach the commander of the engineering department (BCh [department]-5), Engineer-Captain 2d Rank Shestakov. But this is not the main thing. Important for him, first of all, was the fact that he, a person who serves next to the reactor and who does not have weapons under his control, is able not only to provide the ship with the required dynamics of operations in the ocean, but also to extract a specific tactical advantage from it. For if, in adopting a decision for battle, the commander of a ship saw certain maneuvers in it only in a general plan, the engineer officer became aware of them extremely concretely for it is namely he who knew all the limits and capabilities of the nuclear-powered vessel in the given situation more deeply and clearly than the others.

Of course, this came with practice. Vladimir Afanas'yevich Shestakov has served on nuclear-powered vessels continuously for 16 years. Altogether, he spent four of them beneath the water, in the depths of the ocean. And he not only spent time there but, one can say, he keenly felt each turn of the propeller and each degree of the reactor's nuclear furnace with his mind and heart.

The department headed by officer communist Shestakov has held the title of excellent and best on the ship and in the force for more than five years already. Here one out of every two seamen is a highly rated specialist. This is now perceived as natural, as a matter of course. But at one time each position was taken with difficulty.

Initiative, activity, devotion to principle, ability.... Such attributes "follow" Shestakov in efficiency reports. And this already reflects the steep and complex spiral of the engineer officer's professional growth which all consists of rises and turns. A person who cannot divide his predilection and his enthusiasm between the equipment entrusted to him, including the miracle of the age--the nuclear reactor, and his subordinate people, among whom are many officers. For this is a single system: man and equipment. The main thing here--to go to the equipment through man.

"Most likely, you made a mistake with my appointment," said Captain-Lieutenant I. Volkov in a fit of temper when soon after his assuming the post of commander of the electrical engineer division Engineer-Captain 2d Rank Shestakov severely reproached the electricians for shortcomings in maintaining the materiel. "What kind of division commander will I make?"

"No one will undertake to say now what kind of division commander you are," answered Shestakov calmly, as if he did not note the sarcastic tone in the officer's voice. "Frankly speaking, you have not yet shown your worth. Not as a specialist with initiative, nor as a demanding commander, nor as a thoughtful teacher. However, you have the instincts and, therefore, you were appointed but here, for the present, I do not understand what is preventing these instincts from manifesting themselves."

Shestakov's question pertained not only to the subordinate, but also to himself. Of course, he knew that words alone do not transform a young officer. So with what and how to help him? Where are those hidden keys which put the character of this officer into motion?

One of Volkov's such small keys was his notion of personal prestige, of superiority. The officer also looked at matters in the division through the prism of this notion. But a fervent striving to "show himself" was not reinforced by the experience of an organizer. The thirst to make one's way among the leaders--by making allowances in grades and by resourcefulness in reports--is especially dangerous in just such a situation.

At every opportunity, the commander of Department-5 placed Volkov under difficult conditions where the dynamics of events unambiguously stimulate the officer himself to make important decisions without looking back at his seniors and to assume responsibility for the choice which was made. Even if some course will be incorrect, even if not everything is attained at once. The main thing is how the officer conducts himself in a critical situation. And Shestakov understood that Volkov, however difficult it is for him, will never play a cunning trick and will never abandon an officer's honor. And this means that here one can rely on his notion of personal superiority in indoctrinational work with the person. These are pure notions which stimulate one to do everything better than the others, and the main thing--to do it according to the dictates of his conscience.

And the commander of Department-5 did not err. Now Engineer-Captain 3d Rank Volkov is the commander of an excellent division and one of the best officers on the ship.

I had the occasion to participate in a long ocean cruise as a member of the crew of a nuclear-powered vessel on which Engineer-Captain 2d Rank Shestakov serves. I saw him at work, during hours when everything proceeded calmly and rhythmically and at moments when the situation which had been created bitingly struck the nerves. Amazingly, but the aggravation of the situation seemed to calm Shestakov: he issues commands without fussing and makes decisions without tension. In acute situations such behavior by a person, all the more the commander, is inestimable for his associates. Especially if the precise and profound knowledge of the developing situation, foresight, and confidence in himself and people are felt behind each of his words and behind each action.

So here, the opinion of Shestakov on the ship as regards difficult situations was common. And then, in ordinary life one of the young officers complained in talks with his comrades about the strictness, inflexibility, and categorical nature of the engineer officer. These qualities, which are extremely necessary in the severe service of nuclear submariners, were at times seen by him on the same level as inattention and the lack of desire to consider the opinion of others. But you see, in order to dispel the delusion of the lieutenants much time is required, as it was required for those who, like Volkov, by now relate to their service and their work as Shestakov himself. It is like with each new putting of the reactor in the normal operating mode.

By the way, it was shown to me that with each new putting of the reactor into operation Shestakov also changes in some way and improves his methods of work as he changes when he begins to work with new people who are unknown to him. And Vladimir Afanas'yevich himself admitted somewhat embarrassed: he strives to proceed as the circumstances and the interests of the matter require: decisiveness and caution, exactingness and sensitiveness, devotion to principle and flexibility are displayed in different ways in different situations.

One day, the commander of the ship noted in a conversation with me:

"Some engineer officers are reproached because they do not always see a person behind the equipment. But here Shestakov is able to attain the necessary final result with actions which, in appearance, are not very noticeable but are very precisely adjusted."

Correctly noticed. Actually, Engineer-Captain 2d Rank Shestakov, for all his strictness, is extremely sensitive to the condition of people and the microclimate in the collective. He is always concerned that the moral consequences of his decisions and actions are always favorable.

One day the best specialist of Department-5, Petty Officer 1st Class A. Freyentkhal, for the very best motives, began to inspect the battery tank on his own without a safeguard, which violated the requirements of the instructions. Shestakov punished the petty officer strictly although he always treats him with deep respect and sympathy. This was important for the others, and the petty officer also suffered so deeply for what had happened. The officer displayed consistency in demandingness and fairness.

At the same time, Shestakov sometimes makes it seem that he does not notice the mistake of a subordinate. He only follows the reactions of a man to his actions and thereby gives him the opportunity not only to disclose his negligence himself, but also to correct it. The lesson from this is no less useful than in the case of exerting influence externally. It all depends on the situation, on the special features of the submariners' character, and on their attitude toward matters. The main thing is to teach people to serve on a nuclear submarine in such a way that cruise difficulties and special conditions do not burden them and do not cool their enthusiasm.

On a nuclear-powered ship, with time people somehow forget that all their lives and their service take place alongside a reactor. But this factor invariably exerts a special psychological influence on the submariners. Improved equipment requires comprehensive qualification and the highest style of work. And one other thing--internal readiness to cope with any surprises. And all troubles of the submarine service--the current work of daily base activity and the acuteness of difficult cruise situations--they all acquire clear meaning for Engineer-Captain 2d Rank Shestakov, and they are all subordinate to the main thing--the combat readiness of his ship.

...Having traced the globe in a giant underwater trajectory, the nuclear missile carrier accompanied by tugs moves slowly toward the pier. In order to cling to it, to lose thousand-mile fatigue, and to rest before again departing on a long and difficult path.

All of us who have climbed up on the bridge are still dizzy from the abundance of oxygen which we inhale with each cell of the body after a long voyage beneath the water.

I see Engineer-Captain 2d Rank Shestakov also move to the bridge. Under the fur hood of the raglan is a calm, friendly face and the tenacious look of gray eyes. They are

now looking at the pier--are his wife with their small daughter and son here among the welcomers? Here! Then Shestakov turns toward the hills. He rejoices at the sparse northern landscape as if he is seeing it for the first time, but you see, for 17 years his family has been meeting those who are returning from a long cruise. And it occurred to me that the Navy is supported by just such officers who are loyal to their duty.

Chernavin on 1962 Arctic Cruise

Moscow KRASNAYA ZVEZDA in Russian 20 Jul 82 p 2

[Interview with Admiral V. Chernavin, chief of main naval staff, by Capt 2d Rank S. Bystrov, on the occasion of the 20th anniversary of Arctic cruise of the submarine "Leninskiy Komsomol"; date and place not specified]

[Text] Twenty years ago, in June 1962, the nuclear submarine "Leninskiy Komsomol" accomplished a cruise beneath the ice and surfaced in the area of the North Pole. This was an important Arctic victory for Soviet submariners which opened the expanses of the Arctic Ocean beneath the ice to submarines of the Country of Soviets. Our correspondent, Captain 2d Rank S. Bystrov, requested the Chief of the Main Naval Staff, Admiral V. Chernavin, to tell about the preparation and accomplishment of the historic cruise of the "Leninskiy Komsomol."

[Question] Comrade admiral, why was it that namely the "Leninskiy Komsomol" was entrusted with opening up Arctic underwater cruises?

[Answer] The very fate of this ship determined its pioneership. For the "Leninskiy Komsomol" is the first Soviet nuclear submarine. Its crew was the first Soviet crew of nuclear submariners. And, naturally, this nuclear-powered ship had to do many things for the first time in the history of the Soviet Navy. For the successful mastery of the new equipment the first commander of the "Leninskiy Komsomol," who is deeply respected by submariners of all generations, at that time Captain 1st Rank Leonid Gavrilovich Osipenko, was awarded the title of Hero of the Soviet Union. His executive officer, Captain 2d Rank Lev Zhil'tsov, and the first engineer officer of the nuclear-powered ship, Engineer-Captain 2d Rank Boris Akulov, were awarded Orders of Lenin, several people were awarded Orders of the Red Banner, and all active duty seamen--the Ushakov Medal. Both for decorations and for work, at that time there was no crew equal to the crew of the "Leninskiy Komsomol."

The ship received the mission to prepare for the cruise beneath the Pole long before its accomplishment. However, at that time the tasks of mastering new equipment by ships having various purposes were moved to the foreground. The "Leninskiy Komsomol" took an active part in the accomplishment of these tasks. And the times for the cruise beneath the Pole were postponed. This was a very difficult period. And primarily for equipment. The nuclear-powered ship submerged and surfaced endlessly, changed speed from full to one-third and back dozens times a day, and constantly operated in a strained mode.

In working under such extreme conditions, the crew acquired the greatest wealth of experience and learned to eliminate any malfunctions easily and to prevent them perspicaciously. The seamen, it can be said, mastered their ship irreproachably and, at that time, were the best trained crew.

The "Leninskiy Komsomol" was undergoing preventive maintenance when the submariners learned that their ship had been entrusted to prepare for a cruise beneath the ice. Little time remained to the established time, and even one of the submariners from other ships did not believe that "Granny" (this is what we then called the father of nuclear submarines good-naturedly and respectfully) will be able to prepare itself. However, the crew of the "Leninskiy Komsomol" once again demonstrated its highest professional qualification. And when, shortly before the cruise the commander-in-chief of the Navy, Admiral of the Fleet S. G. Gorshkov, arrived on the submarine, he was convinced that the ship was ready for the accomplishment of the important mission and that the correct selection had been made.

[Question] It is known that the crew of the nuclear ship which you commanded at that time took an active part in the preparation of the "Leninskiy Komsomol" for the voyage to the Pole.

[Answer] Our submarine, which inherited the flag of the famous Lunin K-21, was considerably younger than the "Leninskiy Komsomol." Now, 20 years later, this difference does not seem perceptible. But then, every year added very much improvement to the ships. The experience in the operation of the firstlings was actively considered. The crews of other submarines stood on their feet sooner using the experience of their predecessors. Therefore, for example, although the first attempt at a voyage beneath the ice belonged to the "Leninskiy Komsomol," by June 1962 our ship had the most practice in cruises beneath the ice among the nuclear-powered ships. On our ship the future commander of a cruise to the North Pole, Rear Admiral A. Petelin, and the flag navigation officer, Captain 1st Rank D. Erdman, worked out a procedure for maneuvering beneath the pack and surfacing in a water opening. The crew had the hope that, perhaps, they would send us to the Pole, and we prepared for this thoroughly, not unlike backups for space crews. And at that time both crews understood that the experience which is now being acquired in the depths beneath the ice is very important and required not only by us: in the near future sailing under the ice would become a normal matter for all submariners.

[Question] We had the glimmer of a comparison of the crew of the nuclear ship with a space crew. For example, it is not by chance that 20 years ago KRASNAYA ZVEZDA wrote that on the Gold Stars of A. Petelin, L. Zhil'tsov, and R. Timofeyev who had been awarded the title of Hero of the Soviet Union for the cruise of the "Leninskiy Komsomol" beneath the ice the numbers "11121," "11122," and "11123" had been embossed; these are the numbers under which the North Sea submariners found themselves in the List of Honor of the fatherland's heroes alongside pilot-cosmonauts A. Nikolayev and P. Popovich.

[Answer] Yes, it can be said that the mastery of outer space and space beneath the ice and of new deep orbits, including round-the-world, proceeded in parallel. The world of the oceans is also infinite in its own way, and each new penetration into it requires a high state of training, courage, and heroism. I am confident that many more times the names of submariners and cosmonauts will be side by side in the

list of new Heroes of the Soviet Union as has already happened in past decades of the active mastery of space heights and ocean depths. And, of course, it is significant that heroes of new professions appeared virtually simultaneously--nuclear submariners and cosmonauts, of professions which testify to the greatest achievements of the country which is building communism.

[Question] It is interest, what did the seamen who were departing for the Pole for the first time feel then? Did they see all the grandeur and significance of their cruise?

[Answer] History knows a great number of examples where the greatest human creations were nothing but the result of the brilliant accomplishment of an assigned task. The first-generation nuclear submariners, just as all subsequent ones, looked upon everything which they did first of all as tasks which must be accomplished in the best manner and saw in this their service duty to the motherland. And how the results of their labor were evaluated later was another matter. Today, the naval seamen also must often accomplish very difficult tasks which have not yet been mastered by anyone but, just as then, this causes first of all profound satisfaction with their labor and the joy of sensing its importance and necessity.

When the "Leninskiy Komsomol" departed beneath the ice, Rear Admiral A. Petelin walked through the compartments. He inspected everything attentively and looked especially carefully at people. And he returned to the central control compartment concerned. There, the following dialogue took place between him and the commander:

"Lev Mikhaylovich, something has made the people extremely calm, as if we are having a normal cruise. It is not felt that we are beneath the ice."

"First, comrade admiral, half of our people have already been beneath the ice. And really, they prepared and knew where we are going."

"But," Petelin shook his head, "it is strange nevertheless. The calm is amazing."

Of course, in their hearts the submariners were excited, but on this pioneer ship the ability to control oneself had become a tradition. Which, by itself, is a sign of naval maturity, spiritual steadfastness, and professional reliability.

[Question] I had the occasion to hear from Rear Admiral Zhil'tsov, who recalled this cruise, that all the same so much new, unstudied, and unknown was encountered by him that it seemed to him that the nuclear ship was not moving in sea water but in a dense infusion of undisclosed information.

[Answer] Yes, the cruise of the "Leninskiy Komsomol" proved to be unusually interesting. In its essence, it was a research cruise. Here much was seen and done for the first time. On it the special complexity of the situation was felt from which the crew must emerge by its own efforts. For example, here maps were of almost no help. The depths which were sparsely plotted on them were virtually unconfirmed. One day, when about 4,000 meters were assumed beneath the keel, the acoustic sounder suddenly began to record a steep rise of the bottom. The commander began to worry--will this rise end at the ice itself? It is namely in this way that the nuclear ship confirmed the hypothesis of the existence of one more underwater ridge in the Arctic Ocean, one of whose peaks since then bears the name of the ship.

Naturally, in these latitudes the conditions for the operation of compasses and gyrocompasses are very difficult. But the command and crew were worried most of all by the search for the water opening. At first, it was intended to organize the cruise in two stages: a test trip under the ice with a return to the edge of the ice and a report, and then the passage beneath the Pole itself. Captain 2d Rank Zhil'tsov made a suggestion--not to return for a report but to surface immediately in a water opening and report by radio, after which, receiving permission, to begin the second part of the cruise.

The "Leninskiy Komsomol" looked for a water opening for a long time. Finally, it began to surface but, at the last moment, an ice floe appeared above the ship and it was necessary to submerge quickly. The second time, they surfaced across a fissure. The third time was also unsuccessful. As it turned out later, a strong ice push was observed in this area. But the commander in chief was waiting for a report. And suddenly, a tremendous water opening. Patience was rewarded. They surfaced calmly, as if at their own shores. Here, then, the Soviet Man-of-War Ensign which had been brought here beneath the water was raised above the hummocks of ice for the first time in the Arctic by the crew which had gone down on the ice.

[Question] And this was only the beginning of the cruise which proved to be very difficult to the very last cable length....

[Answer] It is not an exceptional nature which stands behind this, but rather the distinguishing feature of all cruises. That is how it was in the war years. Today we train the crews to work with a full load until the last minute of the voyage. This celebrated cruise was also distinguished in this manner.

Passing the Pole, the "Leninskiy Komsomol" began to descend to the south, again searching for a water opening. They again succeeded in this with difficulty, and the water opening proved to be very small. But in return, experience made itself felt--they surfaced quickly and accurately. On the return trip, while moving to one of the bases, the submarine accomplished subsequent missions which presented both difficulty and a certain risk. They arrived at the calculated point on time. They surfaced--and found themselves under conditions just as difficult: solid fog. It was necessary to enter the base where Zhil'tsov had never been before by ranging without waiting for a change in the weather--they were waiting on shore for the conquerors of the Pole.

Even mooring proved to be unusual: a strong centrifugal current and wind, and no time for hesitation. Never before nor after, as Zhil'tsov recalled later, did he have to moor in such a way: at full speed, under turbines, with sudden reverse. The highest class of naval skill was required.

[Question] The cruise of the "Leninskiy Komsomol" not only discovered the Pole for submariners, but also the submariners of nuclear ships for the country. For the first time, the newspapers told about new Soviet ships--the mighty weapon for the defense of socialist achievements. How did the submariners perceive such an event in their lives?

[Answer] I well remember the return of the "Leninskiy Komsomol" to its base. Our ship in full dressing greeted Zhil'tsov's submarine in the harbor. I ordered the seamen to salute from the bridge with rockets. Continuous fireworks whirled in the

sky. It was so joyous for all, as if they themselves had descended toward the Pole. On the hills--posters, transparencies, and flags. Rockets were also flying upward. Crews were formed up on the wall as was a combined band. And women with flowers on the wharf for the first time. The entire garrison celebrated the arrival of the "Leninskiy Komsomol."

This cruise marked a new stage in the mastery of the ocean depths by nuclear-powered ships. And actually, cruises had begun--new in their scales, complexity, and tasks. The "Leninskiy Komsomol" cleared the way for them--and this will always be memorable and dear, as a personal experience for all submariners of the first Soviet nuclear ships. Subsequently, the motherland marked the labor of many of them with high decorations and many crews, like the crew of the "Leninskiy Komsomol," reared Heroes of the Soviet Union. In general, the ship founded many new and remarkable traditions. From such small ones as making a model of their ship. (The first models of ebonite were turned by Senior Seaman Rustam Shingarayev and one each was presented to the commander in chief and the commander.) To those having such state significance as military longevity: up to now the "Leninskiy Komsomol" is in the formation of the Northern Fleet.

Damage Control Training

Moscow KRASNAYA ZVEZDA in Russian 1 Aug 82 p 2

[Article by Rear Admiral I. Ivanov: "A Concern of the Entire Crew"]

[Text] A damage control exercise took place on a submarine. Immediately after the signal for the emergency drill, special situations followed concerning the outbreak of a fire in one of the compartments and the entry of water in another. Compartment damage-control parties joined in the strained work. Then the director of the exercise complicated the situation several times and issued newer and newer special situations which required of the seamen the skillful employment of fire-extinguishing and water-removing equipment. In general, much was done to have the training situation approximate one of combat. But nevertheless if we judge from a strict score, this was not completely successful.

The fact is that the training of the submariners was organized one-sidedly. If, for example, those subordinates of the commander of the engineer department, Engineer-Captain 2d Rank M. Rikhter, who were directly engaged in closing the "holes" and eliminating the "fire" hot spots had to labor with full output, this could not be said of others and, in particular, of the officer himself. On the exercise, in essence no problems arose for the submariners in ensuring the running and maneuverability of the ship. Nor did the crew have to oppose "enemy" attacks. It turned out that the "enemy," launching a strike against the submarine, subsequently did not even try to attack it again, granting the crew the opportunity to be engaged in damage control alone.

In actual battle, the enemy will hardly be so obliging and so impersistent. We recall wartime experience, recall the difficult conditions under which at times the Soviet submariners had to conduct damage control operations on the ships in the years of the Great Patriotic War.

I will present only one example. On 14 September 1942, the submarine "Lembit" under the command of Captain-Lieutenant A. Matiyasevich, in accomplishing its routine combat cruise, attacked an enemy convoy. Two fascist transports were sunk by an accurate two-torpedo salvo. One of the convoy's escort ships tried to ram the "Lembit." But taking off to a safe depth, the submarine avoided the strike. Here the enemy began to bomb it fiercely. A fire broke out on the "Lembit," and water began to enter the hold of the third compartment. An explosion damaged the air-intake ducts and the radio room was destroyed. Telegraph control did not operate, power supply for the gun's electric elevating mechanism was disrupted, and many instruments were put out of operation. The third compartment was engulfed in semidarkness. Of the 13 men located in the central control compartment, six were wounded while the remainder received contusions. In short, the submariners faced the necessity for the simultaneous accomplishment of a great number of various tasks of vital importance for the crew--they extinguished the fire and pumped out the water, eliminated damage to the equipment, and assisted the casualties. And the enemy still bombed the ship. And really, even later when the fascists, deciding that the "Lembit" had been destroyed, departed, the tests for the submariners did not end. It was still necessary to succeed in raising the damaged ship from the depths, later, during a new encounter with the enemy, avoid his attack, and then, continuing the struggle to save the "Lembit," to take it through an area of shallow water full of navigation dangers....

Overcoming everything, the submariners returned to their base. They won in the battle for their ship, won because they operated as one steadfastly and skillfully at each battle station and because concern for the combat capability of the ship was truly the concern of the entire crew.

The experience of the wartime fighters teaches us that we must strive to see that all personnel are ready to fight for the survival of the ship with active enemy influence and under difficult weather and navigation conditions. The crews should be taught to distribute their forces correctly so that, in fighting fire and water, at the same time they preserve the ability to get the maximum possible from the equipment, employ their weapons and repel counterstrikes, and accomplish all possible combat missions. In other words, it is necessary to teach people comprehensively and in an integrated manner.

This is the way they try to approach the training of the personnel in damage control procedures on the submarine which, until recently, was commanded by Captain 2d Rank A. Belousov. Here they begin it with the working out of initial measures and with teaching the men the elementary procedures for fighting water and fire. But, having laid the foundation, the submariners try to go farther. Already in the course of drills in the compartments, they attain from the personnel and, in particular from the compartment commanders, not simply the mechanical accomplishment of various procedures, but meaningful actions which are based on a deep understanding of overall ship missions and their place in their accomplishment. The entire complex of problems connected with ensuring the unsinkability and explosion and fire safety of the submarine and the survivability of its weapons and technical equipment are worked out on ship exercises. In which regard, emergency situations are always gamed against the background of a specific tactical and navigation situation. In turn, all tactical missions, firing exercises, and tasks in sea and ocean sailing are accomplished, as a rule, in combination with the working out of special situations on

damage control. This achieves the harmonious and comprehensive nature of the submariners' training and ensures their ability to become oriented correctly in difficult situations.

The following fact is typical. One day the submarine took part in a two-sided tactical exercises. At one of its points in time, something unforeseen happened. A crackling which is typical of a short circuit was heard in the distributing board which provides power to the turbogenerator on the port side. The commander of the electrical engineering group, Engineer-Lieutenant S. Kokoshnikov, immediately adopted measures so that there would be no interruption in providing the ship with electric power. The malfunction had virtually no influence on the operation of the mechanisms. The crew maintained complete readiness for the accomplishment of combat training missions.

The initiative and competent actions of the submariners in their compartments is the most important condition for maintaining the high combat capability of the ship in the most difficult situations. Another such most important condition is the clear, purposeful control of the personnel's actions when the ship receives battle damage. In this connection, it is appropriate to recall the thesis from the report of the Soviet Minister of Defense, Marshal of the Soviet Union D. F. Ustinov, at the 6th Army-Wide Conference of Secretaries of Primary Party Organizations about the fact that the ability to think and act under conditions of an extremely rigid time limit and tremendous moral-psychological and physical loads is mandatory for the military leader of any rank. It is namely such conditions, in particular, which characterize a situation where the ship on a cruise or in battle receives serious damage to the hull, equipment, and weapons.

The coordination of the entire crew and the reliability of the interaction of the compartments depend on the quality of training of the ship's commander and the clearness of the work by the primary control station (GKP). At the primary control station damage control tactics are worked out, where the most dangerous situation has been created is determined, and a determination is made on the accomplishment of which missions the efforts of the submariners should be concentrated first. This is why unquestionably they proceed correctly where problems in the coordination of the GKP are especially distinguished during operations under emergency situations, where they teach commanders to control the ship with a certain indefiniteness in the situation and insufficient and even distorted information from the damaged compartments, and where they generate in them the ability to forecast the after-effects of damage and its effect on the ship's combat capabilities.

Here, I should like to stress the following. It is not always possible to solve directly on a submarine the entire complex of problems connected with the training of seamen in damage-control procedures under conditions which approach those of combat. Shore-based training-drill complexes (UTK) should be an important help for this. They are now found in many units and forces. Here the submariners can test their strength in fighting real fire and water.

However, it is believed, there are also reserves in the work of several UTK's. We should see that each such complex becomes a genuine center for the training of crews for damage control and that here all problems can be solved--from the individual training of the men to the training of the crew in its entirety.

In this regard, I would cite as an example the work of the specialists of one of the UTK's--officers N. Selishchev, V. Kravtsov, and V. Rummyantsev, and Warrant Officer [michman] A. Printsev. Even formerly, their training-drill complex was not badly equipped and here they drilled compartment damage-control parties successfully. However, the specialists continued persistent work on improving the training base. Now the capabilities of the UTK have been expanded significantly. It now permits conducting drills of complete crews, simulating an emergency situation on the scale of an entire submarine and, in so doing, creating a saturated tactical background. The effectiveness of training on the UTK has increased significantly.

An integrated approach to the training of submariners in damage-control procedures is an important direction in improving the combat readiness of the crews.

More Channel Mining Exercise

Moscow KRASNAYA ZVEZDA in Russian 3 Aug 82

[Article by Capt 3d Rank A. Pranch, Red Banner Pacific Fleet: "Submariners Mine the Channel"]

[Text] The naval seamen call mine laying "silent battle." This battle begins long before the ships of the opposing sides leave their bases. Some haul them in and, by all means, ensure the safety of the channel along which ships can be conducted to the operational expanse. Others try come what may to disclose and mine a navigable passage.

The one who loses this battle feels in full measure the strength of a formidable weapon--mines. In the years of the Great Patriotic War mines destroyed more than 120 combat ships and auxiliary vessels and 134 transports of the Hitlerite aggressors.

"Soviet submariners demonstrated high skill, multiplied by the greatness of spirit, when setting out mine screens in front of the enemy's nose. Our duty is to be the equal of the wartime heroes and to adopt their wealth of combat methods."

The commander of the torpedo department of the submarine, Senior Lieutenant R. Goryushin, concluded his brief appeal to his subordinates with such words. But from the reaction with which the seamen perceived his words, he understood that each of the torpedomen would operate in this training battle as in a real one.

The training mission assigned to the submarine crew proved to be difficult. They were to mine a channel through which the "enemy" led his ships from a well-protected bay. But where the channel was laid and what its configuration and width were--for the present all this was unknown to the submariners. The only thing which caused no doubt was that the channel is carefully protected, approaches to it are mined, and the depths on the approaches to the bay are insignificant.

Maneuvering with maximum caution, the submarine reached the point from where, according to the assumption of the ship's combat crew (KBR), it would be possible to determine the entrance to the channel from the direction of the sea with sufficient accuracy. The navigator, Captain-Lieutenant A. Dyul'din, is all attention. He had

already checked a good dozen variations in maneuvering depending on the situation and now he is determining the location of the ship again and again. Here the slightest error may lead to the most undesirable consequences and, as a result, it all turns out that the mines will not be laid where they should be and the "enemy," just as formerly, will begin to use the channel which is known to him alone.

The reports of the sonarman, Petty Officer 2d Class S. Steklyannikov, are thorough and laconic. But for the present, they do not contain the information which is now extremely necessary. And the commander of the submarine makes the decision to head off to sea a little from the entrance to the bay. The calculation for meeting the "enemy" there was completely justified.

"Target number one," reports Steklyannikov in a cheery voice without taking his eye from the screen of the sonar station. "Bearing.... Range...."

"Classify the contact!"

While the sonarman is accomplishing the commander's order, the combat information center determines the elements of the target's movement. It was learned that an auxiliary vessel was proceeding into the bay. Soon an escort ship passed in this same direction. The KBR immediately began to determine the location and method for laying a minefield.

The success of the training mine laying now depends to a decisive degree on how secretly and rapidly the submariners will operate. The seamen of the engineer department under the command of Engineer-Captain-Lieutenant A. Karanov demonstrate high skill. The chief boatswain's mate, Warrant Officer [michman] I. Bolotin, keeps the boat at the strictly assigned depth and on an even keel with filigree accuracy.

The torpedomen now have the hot work. Having calculated the interval for laying the mines, Senior Lieutenant Goryushin looks at the stopwatch with concern. And here one is convinced that the torpedomen prepared their weapons for action much earlier than envisioned by the standard. This is to the undoubted credit of the team leader, Warrant Officer V. Kolomyts. The drills which he conducts with his subordinates without fail are distinguished by a spirit of competition and elements of innovation. They are as close as possible to the realities of contemporary battle.

The submarine gently springs at even time intervals. This is the mines which are being fired from the torpedo tubes. Sowing the channel densely, they reliably closed the exit from the bay to "enemy" ships.

The crew of the excellent submarine is stably achieving high indices in combat improvement from day to day. Competing for a worthy greeting for the 60th anniversary of the formation of the USSR, they emerged among the leaders in the unit.

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PERCEPTIONS, VIEWS, COMMENTS

COMMENTARY ON 'PENTAGON'S PLANS FOR SPACE'

Moscow AGITATOR ARMII I FLOTA in Russian No 20, Oct 82 (signed to press 11 Oct 82)
pp 30-32

[Commentary by Col G. Siberyakov, candidate of historical sciences: "The Pentagon's Plans for Space"]

[Text] At the present time, two opposing tendencies are evolving and interacting in worldwide astronautics--the quest to make space an arena for peace and cooperation, and efforts to turn outer space into an arena for military operations and extend into space an arms race fraught with mortal danger for humanity. The Soviet Union's position regarding the exploration and utilization of outer space was stated conclusively in the appeal of the CPSU Central Committee, the Presidium of the USSR Supreme Soviet and the Government of the Soviet Union on the occasion of Yuriy Gagarin's historic first flight into space: "We consider the victories gained in the development of space to be achievements not only of our people, but of mankind as a whole. We gladly place them at the service of all peoples in the name of progress and for the good of everyone on earth. We place our achievements not in the service of war, but in the service of peace and safety for all peoples." Through the efforts of the Soviet Union, many joint projects for the exploration of space have been carried out with the participation of cosmonauts and other experts from socialist, capitalist and developing nations.

Militaristic schemes for expanding the potential sphere of military operations beyond the earth's atmosphere and for the creation of a "perfect" space weapon appeared in the United States soon after the end of the Second World War. A Rand study depicted broad prospects for the utilization of military spacecraft, fantastic for those times. The first Soviet successes in astronautics engendered an inferiority complex among American political and military leaders. They decided to cure this by escalating the arms race. It was at the end of the 1950's and the start of the 1960's that there appeared in the United States a multitude of hypotheses and plans for turning outer space into an arena for military operations. Appeals were sounded for the United States to achieve the means of preventing the "takeover" of space by the enemy. Plans to build a missile base on the moon were commented upon extensively. One of the military journals even discussed a plan for "removing" an asteroid from its trajectory and directing it to some large area of enemy territory. In the mid-1960's, the Americans found out that the Pentagon had begun to carry out a plan for the creation of a military orbital laboratory (MOL). True, the MOL was unable to compete with the Apollo project, and it was terminated in 1970 after almost \$1.5 billion had been spent on it.

In the 1970's, the U.S. Defense Department did not cease its activities with regard to utilizing space for military purposes. Right up to the beginning of the 1980's, American military astronautics represented the constantly improved potential of space weapons to support the day-to-day activities of the U.S. Armed Forces.

Voicing its adherence to the utilization of space for peaceful goals, the Reagan administration nevertheless has stated that it does not exclude and even "tolerates" military operations in space.

In a recently published special directive regarding the United States' new policy toward the exploration and utilization of outer space in the 1980's and even in the more distant future, specific problems were enumerated, the solution to which should make possible the extensive utilization of outer space for military purposes--an improvement in the "survivability and defensive capabilities" of space systems and the accelerated introduction of "antisatellite" systems. Top-level Defense Department administrators have stated many times that it would be expedient to modify the structure and function of one of the branches of the armed forces--the United States Air Force--and reorganize it into an Aerospace Force.

President Reagan's directive establishes an interdepartmental coordinating group, with the president's national defense advisor named as its chairman. It is composed of the deputy secretary of the Commerce Department, the director of the CIA, the chairman of the Joint Chiefs of Staff, the director of the Arms Control and Disarmament Agency and the director of NASA. The composition of this interdepartmental group testifies to the fact that the Republican administration intends to make the space program a more effective means of resolving military-political problems and a tool of aggressive foreign policy.

A "Space Command" has begun operating within the United States Air Force. It has been entrusted with the day-to-day operation of military satellites, the control of weapons designed to intercept enemy spacecraft and the control of spacecraft in the interests of the Defense Department.

AIR FORCE magazine has elaborated on certain of these plans. It reported that the Republican administration intends to unilaterally establish a "quarantine" zone around its own spacecraft, the violation of which by spacecraft of other countries would result in them being attacked by American antisatellites.

The U.S. Defense Department intends to rapidly carry out the MILSTAR project, the purpose of which is to provide strategic nuclear forces and other armed forces in various theaters of military operations with uninterrupted and reliable communications that are protected from the effects of the enemy's offensive weapons, including nuclear. The project provides for the placing of four communications satellites into stationary orbits over the Indian, Atlantic, Western Pacific and Eastern Pacific Oceans. Plans have been made to equip a few other satellites in high polar orbits with the means to maneuver so that they can "escape" from enemy antisatellites. In addition, "dark" or "sleeping" satellites will be placed into orbits at altitudes of approximately 200,000 km. It is proposed that on command from earth these satellites will be brought into geosynchronous orbit in order to reinforce or replace satellites in this system which have been disabled.

According to information published in the foreign press, we know of one other space project--"High Frontier." This plan envisions the creation of a global orbiting antimissile defense system consisting of 432 "space trucks" which would have on board 50 miniature "interceptors" for targets in space. They are similar to those already being tested in the United States.

The schemes of the American military machine to turn outer space into an arena for military operations and to extend the arms race into space present a danger to all of mankind.

The Soviet Union is doing everything possible to protect outer space from the aggressive designs of the militarists. For a number of years already the USSR has been trying to conclude an international treaty prohibiting the placement of any kind of weapon in outer space. At the 37th Session of the UN General Assembly which took place recently, Comrade A. A. Gromyko once again emphasized in his speech that outer space must be an arena only for peaceful cooperation. The majority of UN member-nations approved the initiative of the Soviet Union and at the same time condemned the plans and practices of the United States, a country which has already begun to use its spacecraft to carry military payloads into space.

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PERCEPTIONS, VIEWS, COMMENTS

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COLOR INSERTS

American M2 "Bradley" Infantry Combat Vehicle; Pair of American F-15C "Eagle" Fighters; Italian "Spada" Surface-to-Air Missile Complex; Swedish Submarine "Nekken"

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PERCEPTIONS, VIEWS, COMMENTS

BASIC INFORMATION PROVIDED ON NATO'S NORTH EUROPEAN FORCES

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 11, Nov 82 (signed to press 10 Nov 82) pp 7-11

[Article by Col A. Mikhaylov: "NATO Combined Armed Forces in the North European Theater of War"]

[Text] Developing their sinister plans for war preparations against socialist countries, militarists of the USA and NATO believe that without dependable support of the European flanks, the NATO bloc troops would be unable to successfully conduct a strategic offensive operation in the main (Central European) theater of war, where the command of the North Atlantic bloc believes that the outcome of the war in Europe would be determined.

In order to implement its aggressive designs, the NATO leadership is perpetually exerting political, economic and military pressure upon the governments of North European countries in the bloc, demanding that they abandon their policy of prohibiting foreign troops and nuclear weapons from their territory in peacetime. Conceding to this pressure, the governments of the Scandinavian member states are displaying clear inconsistency and contradictions in their foreign and military policy: On one hand they express a desire to cooperate in detente and disarmament, while on the other they support NATO's nuclear strategy and favor further growth of conventional arms. The government of Norway, for example, has already consented to the placement of American heavy armament and ammunition supply depots in the country.

According to estimates of Western specialists the North European theater of war plays an important role in the overall system of European and Atlantic theaters of war. It permits the bloc's command to monitor the ocean and marine lines of communication between Europe and America and between the Baltic and North seas; through it pass the shortest aerospace routes from the USA to the largest economic and administrative-political centers of the socialist countries.

A main command and staff of the NATO combined armed forces were created in the North European theater of war and three regional commands were created (in northern Norway, southern Norway and the Baltic straits) in peacetime (in 1951) to prepare the armed forces and territory of the theater and to provide leadership to war operations.

The headquarters of NATO's combined armed forces in the North European theater of war is located in Kolso (a district of Oslo). It contains 11 directorates (operations, reconnaissance, joint exercises, planning, operational requirements, operational leadership, public information, communication and electronics, rear services, personnel and administration, budget and finance) and a commandant's headquarters.

As is emphasized in the foreign press, there are plans for bringing in the troops and fleets of Norway, Denmark, the FRG, the USA, Great Britain and Canada for operations in North Europe (the last three countries are providing certain units and formations to reinforce the bloc's overall grouping). In peacetime, only part of the armed forces of countries within the theater are maintained within the composition of NATO's combined armed forces of the theater of war (the FRG provides only the troops deployed in the state of Schleswig-Holstein), while the rest are to be placed at the disposal of the bloc command in the period of immediate preparations for war are for the time of exercises.

The ground troops of bloc countries in the North European theater of war consist of formations and units on constant alert, and of local defensive troops (territorial troops in the FRG) and a "home guard."

The combined ground troops of the theater of war are organizationally lumped into four commands: northern Norway (headquarters in Bodo), southern Norway (Oslo), Schleswig-Holstein, Jutland and the island of Fynen (transliteration) (Rendsburg, FRG) and the Danish islands (Ringsted). They include about 60,000 personnel, one division, six separate motorized infantry brigades, several infantry battalions, four "Lance" guided missile launchers, about 700 tanks, 400 field artillery guns and mortars, over 800 antitank resources (up to 500 antitank guided missile launchers), 330 antiaircraft guns, up to 100 airplanes and helicopters in army aviation and almost 2,000 infantry combat vehicles, combat repair shops and armored personnel carriers.

According to the estimate of the NATO command, West German ground troops in Schleswig-Holstein (with a total strength of more than 20,000 men) are the most combat ready, and they consist of the 60th Motorized Infantry Division (headquarters in Neumunster), a separate "Lance" guided missile battalion (Flensburg) an antiaircraft rocket-artillery regiment (Rendsburg) and combat and rear support units. They are armed with four "Lance" guided missile launchers, about 300 "Leopard" medium tanks and M48's, more than 180 field guns and mortars, and up to 200 antitank guided missile launchers. They may be reinforced by a mobilization conducted in the "Schleswig-Holstein" territorial command. In the opinion of foreign experts this command is capable of deploying an infantry division in several days and placing it under operational subordination of the bloc command in this region.

Danish ground troops have a strength of up to 20,000 men. The peacetime forces, which are maintained at a rather high level of combat readiness, include five motorized infantry brigades (each containing two mechanized and one tank battalion, an artillery battalion, a reconnaissance squadron, a combat engineer company and supporting subunits), a separate reconnaissance battalion and several separate motorized infantry battalions. They are armed with 180 medium tanks

1120 "Leopard-1's" and 60 "Centurions") and up to 20 light M41 tanks, 640 M113 and M106 armored personnel carriers, over 350 guns and mortars (including 12 203.2-mm howitzers), and antitank resources. There are plans for providing the units and subunits with 840 "Tow" antitank guided missiles.

In the estimation of foreign military experts several infantry brigades, about 20 infantry battalions, 7 artillery battalions and combat support and rear services subunits may be additionally deployed in 3 days if the ground troops of Denmark are mobilized.

The ground troops of Norway contain 18,000 personnel. The most combat ready are the "Nord" brigade and several separate infantry battalions, tank squadrons and artillery regiments armed with up to 120 medium "Leopard-1" and M48 tanks, about 380 field guns and mortars, antitank resources (recoilless guns, and "Entak" and "Tow" antitank guided missile complexes) and M113 armored personnel carriers. It is believed that Norway can additionally deploy 11 infantry brigades as well as several combat support units and subunits.

The ground troops of Denmark and Norway contain large contingents of irregular troops--the "Heimwehren."

The "Heimwehren" is a paramilitary organization manned voluntarily on a territorial principle by politically dependable persons 18-55 years old. It is divided into different arms. The "Heimwehren" ground troops of Denmark contain more than 55,000 men, while those of Norway contain more than 80,000. The main subunit is the company, which consists of three platoons. In wartime such companies may be used to secure and defend military and industrial facilities, population centers, road junctions and bridges, to combat airborne and naval assaults and to fight political enemies of the existing regime.

As is indicated by the experience of numerous exercises, the ground troop grouping of this region can be reinforced by transferring up to four NATO mobile battalions, one Canadian brigade and American and British marine units to this area.

The air forces of the NATO countries in this theater of war are intended mainly to support the actions of the ground troops and the navy and to conduct aerial reconnaissance and air defense.

The bloc's combined air forces are composed of West German combat aviation and "Hawk" surface-to-air guided missile units and subunits, deployed in the state of Schleswig-Holstein, and several Norwegian and Danish air units that are subordinated to the bloc command even in peacetime. The rest of the air force units are transferred to this command in the course of direct preparations for war or in a period of joint exercises and maneuvers.

Organizationally the combined air forces are lumped into three air commands: in northern Norway (headquarters in Bodø), southern Norway (Oslo) and the Baltic straits (Karup, Denmark). The combined air force grouping in the theater contains 18 air squadrons (up to 280 warplanes) and five surface-to-air missile battalions (180 launchers).

The air forces of the FRG deployed at airfields in Schleswig-Holstein include two squadrons of light ground-attack aircraft (up to 40 "Alpha Jet" airplanes) and two tactical reconnaissance squadrons (36 RF-4Es) as well as two battalions of "Improved Hawk" surface-to-air guided missiles (48 launchers).

The Danish air forces total six squadrons of combat aviation, to include three fighter-bomber squadrons (20 F-35XD "Dragons", 20 F-100Ds and F-100Fs and 20 F-16s), two antiaircraft fighter squadrons (40 F-104Gs) and one tactical reconnaissance squadron (16 RF-35XD "Dragons"). In addition the air forces include "Nike-Hercules" surface-to-air missile (36 launchers) and "Improved Hawk" surface-to-air missile (24 launchers) battalions, an airlift squadron (eight C-47s and three C-130Hs), a helicopter squadron (eight S-61As) and 26 training airplanes. The air force command has ordered 56 F-16A and B fighter-bombers as well as 10 light transport airplanes from the United States.

The Norwegian air forces, according to reports in the foreign press, are composed of four fighter-bomber squadrons (72 CF-104Gs, CF-104Ds and F-5As), one antiaircraft fighter squadron (16 F-16s), one reconnaissance squadron (RF-5A), a detachment of combat training airplanes (16 F-5Bs and F-16s), a "Nike-Hercules" surface-to-air missile battalion (36 launchers), an airlift squadron (14 C-130Hs, "Falcon-20S" and others), five helicopter squadrons (50 craft) and four anti-aircraft artillery battalions. Most of the American-made combat equipment with which the Norwegian air forces are armed is obsolete.

As was noted in the foreign press, in exercises conducted in recent years the air force grouping of the North European theater of war was reinforced as a rule by transferring up to 14 combat aviation squadrons (270 airplanes) into this region, to include three or four out of the mobile air forces and eight to 10 out of the air forces of the USA, Great Britain, the FRG and Canada.

The naval forces of the NATO countries in the North European theater of war are intended to support, from the sea, ground troops and air forces operating in maritime sectors, to defend marine lines of communications and to conduct anti-assault landing operations. They include the navies of the FRG, Norway and Denmark, which are represented basically by light fleet forces (up to destroyer strength inclusively). According to the foreign press this theater of war has a total of more than 250 warships and launches, a significant quantity of auxiliary vessels and over 140 fighter-bombers and shore patrol aircraft.

In the estimation of NATO experts the West German naval forces have the greatest combat possibilities among the bloc's fleets in the North European theater of war. They contain more than 36,000 personnel, 24 diesel submarines, 7 destroyers, a guided missile frigate, 6 frigates, 5 small antisubmarine ships, 30 missile and 10 torpedo boats, 22 assault landing ships, 59 minesweepers, almost 100 F-104G fighter-bombers, 20 RF-104G reconnaissance airplanes (some of them can be used as fighter-bombers), 19 "Atlantic" shore-based patrol airplanes, 12 RF-104G training airplanes and more than 40 helicopters (to include 21 "Sea Kings"). It is expected that another five "Bremen" class frigates, 10 missile boats, 112 "Tornado" fighter-bombers (replacing the F-104G) and "Lynx" helicopters (for the guided missile frigates now under construction) will be supplied to the West German navy. The principal naval bases are Flensburg, Wilhelmshaven, Kiel and Ol'jenits [transliteration].

The Danish navy contains 5,700 personnel and more than 75 ships, launches and vessels: five diesel submarines, 10 frigates (including five guided missile ships), 10 missile boats, six torpedo boats, 22 patrol boats and 14 minesweepers. There are also 16 "Lynx" and "Alouette-3" helicopters, and according to reports in the Western press another five "Lynx" helicopters are to be delivered soon. The naval forces of Denmark are based at the ports of Copenhagen, Korsor and Frederikshaven.

The Norwegian naval forces include 9,000 personnel, 15 diesel submarines, five guided missile frigates, two small antisubmarine ships, 12 minesweepers and minelayers, 40 missile boats, eight torpedo boats, three patrol boats, seven small assault landing ships and 13 large minesweepers. Six missile boats and four auxiliary vessels are expected to be delivered. The main bases are Horten, Bergen, Harstad and Tromsø.

In the estimation of the NATO military-political leadership, in terms of its strength and combat composition the bloc's armed forces grouping created for the North European theater of war is inferior to troops deployed in other regions of the European theater of war. Therefore its main mission is to conduct active combat operations in the most important regions of northern Norway and the Baltic straits with the purpose of creating favorable conditions for the preparation and conduct of strategic operations in the Central European theater of war and for operations by forces of NATO's strategic command in the Atlantic.

Efficient training of staffs and maintenance of troop field skills are believed to be important factors of maintaining the high combat readiness of NATO's combined armed forces in the theater of war. Numerous exercises and training sessions are being conducted to test and improve the system for making formations and units combat ready when they are shifted from a peacetime to a war-time posture, to study the variants of their mobilizational and operational deployment and to work out various methods of reinforcing the existing groupings in the zones by transferring troops both within the given theater and from other European theaters of war and from the American continent. Variants of preparing, initiating and conducting combat activities in regions of the theater of war characterized by different natural and climatic conditions are being studied as well.

Each year just according to plans of the NATO command alone, more than 60 conferences, command-and-staff and troop exercises, games, rallies, training sessions, competitions and other operational and combat training measures of all kinds are conducted in this region.

The greatest operational-strategic measures conducted on the scale of the entire theater are the annual conferences of the bloc's executive staff for the theater of war, in which representatives of national commands and government organs of the member countries participate (conferences such as "Viking Shield"). In these conferences the problems of military development and use of the different branches of the armed forces in "limited" and total nuclear wars are examined, and the efforts of the region's states and the militaristic preparations of the North Atlantic alliance are coordinated.

Annual exercises of the NATO mobile forces, such as exercise "Express" (usually conducted in northern Norway), are attended by three or four reinforced mobile battalions of the ground troops (from England, Canada, Luxembourg and Italy), three or four fighter-bomber squadrons from the mobile air forces (from the USA, England, Canada and the Netherlands), combat support and rear services subunits and, in addition, the formations, units and subunits of the combined forces of that NATO command which is responsible for the zone into which the mobile forces are transferred.

In the course of the typical annual exercises of the bloc's combined armed forces conducted in northern Norway ("Bar Frost" and "Cold Winter"), coordination of Norwegian armed forces with American, Canadian, English and Dutch reinforcing units is worked out (joint operations are organized and conducted in the county of Troms, which is believed to be the main base area for NATO's northern flank in Europe).

According to the viewpoints of some foreign military experts and the exercises experience, a sizeable troop grouping (sizeable for arctic regions) must be concentrated in northern Norway for combat activity--up to 10 separate brigades, to include seven or eight Norwegian brigades, one Canadian brigade and one brigade of NATO mobile ground troops (three or four reinforcement battalions). This troop grouping is to be reinforced by two marine brigades (American and combined English-Dutch). The latter are intended mainly to exploit a breakthrough, and to mop up enemy troops.

Problems associated with achieving supremacy in the air and at sea on the northern part of the North European theater of war, with blockading the Baltic straits, with keeping enemy forces from penetrating out of the Baltic Sea and with conducting marine assault landing operations are worked out in exercises such as "Bold Game," "Blue Harrier," "Botany Bay" and others (conducted in the vicinity of the Baltic straits) and "Team Work" and "Northern Wedding" in the North Atlantic and the North Sea.

Two regions have been earmarked to support the missions indicated above. In one of them (the Danish islands and the Baltic straits) the NATO armed forces grouping could include surface ships and submarines of the West German and Danish navies as well as five to seven brigades of ground troops. Their mission would be to blockade enemy naval forces in the Baltic Sea and prevent the landing of enemy airborne and marine assault forces on the Danish islands. The combat activities of troops and naval forces in the Baltic straits are to be supported by Danish tactical air forces and some of the forces of NATO's task force in the Atlantic.*

Problems associated with anti-assault defense of the Danish islands and with conducting offensive operations in another region--the Jutland (maritime) sector--are worked out in the bloc's combined armed forces exercises such as "Abolition," "Bold Game" and others, in which West German, Danish and English formations and units participate.

* For greater detail see ZARUBEZHNOYE VOYENNOYE OBOZRENIYE, No 1, 1980, pp 69-74-75 (1980).

In the opinion of NATO military experts the bloc's main ground troop grouping will be the Danish-West German army corps, which will consist of three divisions (two West German and one Danish, formed out of the Jutland 1st, 2d and 3rd motorized infantry brigades). Up to three or four Danish brigades would be deployed on the Danish territory of the Jutland peninsula to provide operational depth. These brigades may be reinforced by American (up to a division of marines) and English units and subunits belonging to the mobile NATO ground troops. The combat activities of the grouping in the Jutland sector are to be supported by some of the forces of NATO's 2d Joint Tactical Air Command and its task force in the Atlantic.

In addition to the operational-tactical measures indicated above, the combined and national commands and staffs of the member countries in the North European theater of war are taking an active part in strategic command-and-staff exercises such as "Winter," conducted once every 2 years throughout the bloc's entire zone. In these exercises the viewpoints of the NATO command on the nature of modern warfare and on the methods and forms of preparation for it, its initiation and its conduct are examined, and problems associated with shifting the armed forces of the countries from a peacetime to a wartime posture as well as other important problems connected with preparing for aggression against the Soviet Union and other states of the socialist fraternity are worked out.

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PERCEPTIONS, VIEWS, COMMENTS

'ACTIVE DEFENSE' BY COMPANY TACTICAL GROUP DESCRIBED

MOSCOW ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 11, Nov 82 (signed to press 10 Nov 82) pp 23-28

[Article by Col N. Tsapenko, candidate of military sciences, docent: "The Company Tactical Group in 'Active Defense'"]

[Text] Pursuing its clearly aggressive goals, the command of the U.S. Army is attempting to achieve a significant increase in the combat possibilities of the troops. Much attention is being devoted in this case to improving the combat training of the subunits, units and formations. Recognizing that the offensive has become the principal form of combat, the command is concurrently preparing troops for defensive actions as well.

An important place in troop combat training is provided to the company tactical group, including organization and conduct of "active defense" by it, during which the advancing enemy is continually annihilated, being constantly opposed by all forces and resources.

By definition of U.S. Army manuals, the company tactical group, which is created by decision of a battalion commander for a period of combat, includes several tank and motorized infantry platoons (they may total from two to four in different combinations). They are all under the command of the commander of the tank or motorized infantry company out of which the company tactical group is formed. Moreover a company tactical group may include antitank guided missile subunits, mortar, reconnaissance, combat engineer, chemical and rear services subunits as well as communication resources. Depending on the missions involved, fire support is provided to it as a rule by mortars and field artillery, and sometimes by fire support helicopters. In each concrete case the commander of the battalion tactical group determines its composition.

It has been reported in the foreign military press that a company tactical group is assigned several combat positions for defensive actions. These combat positions are fully prepared areas of terrain upon which the group can conduct combat activities with the purpose of blocking the advance of the enemy, supporting the actions of other subunits or making fire strikes. Within the limits of the battalion tactical group's region of combat activities there are to be not less than three positions disposed in depth. Usually the first of them is occupied by the company tactical group, the one behind it is prepared,

and the third is only planned--the terrain is reconnoitered. The two last positions may be occupied in the course of combat if the advancing enemy is successful in the given sector.

American military experts suggest that the company combat position, the optimum dimensions of which are 1.5 km on the front and 1.1 km in depth (Figure 1 [figures not reproduced]), must be maximally protected from enemy observation and fire. It is usually set up in the probable direction of advance in such a way that antitank resources could fire up to a range of 1,000-3,000 meters. It is believed that this requires maximum consideration of the terrain, natural obstacles and engineer obstacles. Presence of shelters, concealed routes of movement and camouflaged routes of advance that could be used for counterattacks is recommended; moreover the terrain in front of the position must be open. The location of the position itself should promote the possibility of flanking fire, and it should permit creation of artillery and mortar defensive fire in direct proximity to it.

Sometimes a company tactical group within the composition of a battalion tactical group conducting defensive actions on the flank of a concentration of the brigade's main forces can be assigned a defense area with a breadth of up to 1 km at its front. In this case the combat formation must be organized in such a way that by conducting delaying actions, it could cover not less than two possible directions of the enemy's advance. In this case it is recommended that every company tactical group have a minimum of three combat positions disposed in depth, between which concealed maneuver routes are planned and prepared. The probable directions of the enemy's advance are covered by minefields.

But if the battalion tactical group will be conducting defensive actions in the division's secondary defense sectors, from which a significant part of its forces and resources have been transferred to the axis of the enemy's main strike, the company tactical group may occupy defenses having a front of 5 km and more. In this case it would be suitable to plan a larger number of combat positions, which would then be prepared with a consideration for covering the possible directions of the enemy's advance.

It has been noted in the foreign military press that within the limits of a position occupied by the company tactical group, the latter's commander creates platoon combat positions, each of which can occupy an area 700-800 meters on the front and up to 500 meters in depth. Dispersing them in such a way that mutual fire support could be provided is recommended.

There are also plans for preparing not less than four platoon positions inside a company combat position. The main positions are occupied by platoons, and the rest are reserve positions to be used if a need arises for regrouping the forces and resources in the course of combat activities.

The combat formation of a company tactical group conducting "active defense" is usually organized in one or two echelons with the platoons in a line, in either arrowhead or reversed arrowhead disposition, and echelon to the right or to the left. Preparation of an effective fire plan and dependable interaction between all subunits are afforded an important place in organization of defensive combat.

American military experts believe that tanks are an important means of "active defense" by any company tactical group, and combat is organized and conducted with a consideration for their possibilities (firepower, maneuverability, armor protection etc.). The plan is to use them jointly with other fire weapons to annihilate enemy tanks and other targets, to provide cover to the motorized infantry combat formations, to conduct counterattacks etc. In this case the mobility of tanks is a dominant factor, since it permits them to conduct a successful defense even in response to the direct action of enemy artillery, mortar and infantry weapon fire. On this basis it is recommended that each tank have a main and alternate fire position outfitted in such a way as to promote the most effective destruction of the enemy at maximum possible distances to the forward edge of defense.

Motorized infantry is afforded an important place in "active defense" conducted by a company tactical group. It performs the main missions associated with annihilating the enemy's infantry and antitank resources, repelling enemy attacks over a long period of time if the terrain must be held, and covering and supporting the actions of tanks and "Tow" antitank guided missiles, especially in blind sectors. For this purpose the commander of the company tactical group ensures extensive maneuver of motorized infantry subunits, utilizing their mobility to the maximum.

From the point of view of American military experts the organization and conduct of combat by motorized infantry will depend on the concrete situation and the missions. For example if terrain must be held for a long period of time, occupying positions in buildings, in forested areas, along natural obstacles and so on with such a way that the enemy could be fired upon from a range of 200 meters is recommended. If the company tactical group is to conduct combat activities on a broad front, motorized infantry may be given the mission of covering the gaps between platoon positions, for which purpose foot patrols are organized out of the composition of the motorized infantry subunits.

It has been reported in the Western press that motorized infantry platoons may deploy by three methods at the combat positions. In the first, the platoon personnel remain in armored personnel carriers which are situated at advantageous positions in shelters; in the second, the platoon is dismounted, with the personnel located next to their armored personnel carriers, and in the third the men and the APCs are located at different positions.

The first method is used when the combat position is occupied temporarily, to be abandoned subsequently (Figure 2). American experts believe that in this case the fire potentials of the platoon would be limited, inasmuch as the personnel are in the vehicles. However, they emphasize, with such a disposition the combat position can be changed quickly or the platoon could be moved to another defense area with the purpose of repelling the advancing enemy.

In the second method of deployment (Figure 3), the firepower of the infantry itself is greater owing to presence of the armament of the armored personnel carriers, while the platoon retains the possibility for quickly maneuvering in the interests of the company tactical group's defense mission. It has been noted in the foreign press that APCs are to be located on the terrain in front, on the flanks or behind the infantry.

And finally, the third method is used when a platoon is ordered to occupy a position in a forest or very rough terrain where armored personnel carriers are unable to maneuver. In this case the APCs are located in such a way that their fire on the enemy would be the most effective. For example they may be located in front of the personnel (Figure 4a), and then as the enemy advances they could shift to a supplementary position in the rear or on the flank, from which they could continue to provide fire support. Otherwise they could be located on one of the flanks (Figure 4b). If the enemy is capable of attacking from any direction, then it would be suitable to locate them somewhere in shelters from which they could advance quickly to fire positions in the threatened sector.

Foreign military experts suggest that an effective fire plan has an important place in organization of "active defense" by a company tactical group. The fire density at different ranges must be adequate to insure destruction of the enemy, and primarily his tanks, APCs, infantry combat vehicles etc. For this purpose the motorized infantry company tactical group possesses 8-12 "Dragon" antitank guided missile launchers (depending on the group's composition), two "Tow" antitank guided missile launchers and grenade throwers. Moreover it can receive an extra one or several "Tow" antitank guided missile sections (each containing two launchers) from the commander of the battalion tactical group (motorized infantry).

The disposition of these resources on the terrain depends primarily on the latter's nature. If for example the enemy can be seen well for a distance of 1,000 meters and more, "Tow" antitank guided missiles would be the most effective if their positions are set up closer to the forward edge of defense (this is true for both organic and attached launchers). At ranges of 1,000 meters and less from the forward edge, armored targets are to be annihilated by tanks and by "Dragon" antitank guided missiles. To exclude simultaneous destruction of "Tow" antitank guided missile launchers, it is recommended that they be dispersed at a minimum distance of 300 meters from one another. To achieve the greatest fire effectiveness of these resources, the fire positions and the areas of fire must be prepared meticulously, with a consideration for their mutual support. In certain cases "Tow" antitank guided missiles may be used from aboard armored personnel carriers parked in shelters.

The fire plan for antitank guided missiles and tanks of the company tactical group is to be organized in conjunction with artillery and mortar fire provided by resources of the senior chief in the group's interests. It has been asserted in the foreign press that well coordinated fire by these resources would reduce the combat effectiveness of advancing enemy subunits by about 50 percent. This would happen owing to a decrease in the rate of advance on defensive fire lines, suppression and annihilation of supporting fire resources and the psychological influence upon personnel in combat vehicles (they are forced to operate with closed hatches even at great distances from the forward edge of defense, which reduces orientation, worsens troop command control and so on). Artillery and mortar fire supporting the company tactical group is controlled by its commander. Immediately in front of the forward edge of the group's combat position, artillery provides defensive fire. The defensive fire lines and concentrated artillery fire are organized in such a way as to cover the enemy's possible directions of advance.

Machineguns are the main infantry weapons of the company tactical group (a motorized infantry company possesses 15 7.62-mm M60 machineguns and one 12.7-mm machinegun, while a tank company possesses 17 and 20 respectively). They are dispersed along the front in such a way that cross-fire could be maintained and mutual support and defensive fire would be possible. If tanks and armored personnel carriers are to be used, the positions of these vehicles and the antitank resources must not coincide. As a rule a main and reserve covered position are set up for one machinegun. However, some experts believe it more advantageous to have two machineguns at each position.

Engineer preparation of the combat positions of a company tactical group are made depending on the availability of time, men and equipment and on the terrain. The stability of defense can be increased by using natural obstacles and setting up manmade obstacles which, in the opinion of American military experts, would restrain or halt the enemy's maneuver or force the enemy to maneuver into an advantageous sector, and reduce the mobility of his subunits. Obstacles would best be set up not only in front of the forward edge but also within the company combat position, and in such a way that it would be more difficult to bypass them than to overcome them. Breaks or passages (not less than 100 meters wide in both cases) are to be created in these obstacles. Observation and fire cover are organized at these locations.

As is noted in the foreign press, the obstacles used most often in the interests of defense of the company tactical group are pits or craters on roads and trails in combination with natural obstacles or minefields; slides and road blocks set up in forested areas, reinforced by mines and covered by fire; wire entanglements (for example two, three and four rows of wire fences etc.) which in combination with other obstacles would hinder the enemy's forward progress.

American military experts believe that of all engineer obstacles, the most effective are minefields. They take relatively little time to set up. Minefields, which may be up to 500 meters broad in front of the forward edge of defense of the company tactical group, are laid by the group's subunits, or with the help of combat engineers. It is felt that they can be laid without maintaining a certain configuration or density of mines in each field. What is mandatory is to precisely map such a field so that the subunit that had laid it could remove the mines at the first necessity. Minefields may also be created by remote means using artillery, helicopters and other resources, at the request of the commander of the company tactical group. All minefields are registered, and their presence is reported to the staff of the battalion tactical group.

As a rule obstacles are set up during the entire time of preparation of defense. Engineer operations associated with creating shelters and trenches to reinforce a company combat position are conducted if time allows.

The commander of the company tactical group learns of the enemy's advance from a higher chief as well as from his own observation posts and reconnaissance patrols. He subsequently acts in accordance with the plan of the commander of the battalion tactical group, strictly fulfilling all of his instructions associated with traveling over the terrain in the course of changes in main combat positions or assumption of reserve positions.

As soon as the commander of the company tactical group receives information that the enemy is beginning his advance, he makes his subunits and fire weapons ready to open fire. At his request, the first to open fire are the artillery and mortars supporting the group with the purpose of forcing the enemy to slow down his advance and close the hatches of his combat vehicles. When the enemy approaches within 3,000 meters the "Tow" antitank guided missiles open fire, attempting to inflict maximum losses (usually one or two missiles are launched, after which the fire position is changed). When the enemy comes within 1,500-2,000 meters, the company tactical group's tanks open fire on the enemy's armored vehicles. At the same time the "Tow" crews maneuver to new positions so as to be able to fire at the enemy tanks from a range of 2,500-3,000 meters. As the attackers advance further, the "Dragon" antitank guided missile crews go into action, destroying targets on the battlefield at a range of up to 1,000 meters from the forward edge. Simultaneously the rest of the antitank resources of the company tactical group (tanks and "Tow" antitank guided missiles) move to new gun positions with the purpose of inflicting maximum losses upon the enemy at the approaches to the defenses.

American experts emphasize that such tactics--that is, maneuver of fire resources within the limits of the company combat position--typify the most important principle of "active defense": maximizing annihilation of the enemy's armored equipment and manpower and exposing friendly forces and resources to minimum enemy fire.

When the enemy's pressure is significant, on orders from the senior chief the company tactical group can leave its main combat position and occupy a new, more advantageous one or move to its reserve position. The possibility is not excluded that such a change may occur when in direct contact with the enemy, who will attempt to prevent such a change. In this case well organized inter-attacks between subunits both within the company tactical group itself and on the scale of the battalion tactical group would play an important role. The commander of the battalion tactical group would use the available forces and resources to support such movement to new positions.

It is emphasized in the foreign military press that prompt change of positions compels the enemy to perpetually deploy into combat formation and then pack up, and to conduct his offensive in partially organized combat formations, which in the final analysis wears him down and reduces the activity of his offensive actions.

It goes without saying that the place of terrain is to play a very important role in defense in general. It must be held by all available forces and resources, the company tactical group may receive orders to transform its combat position into a strongpoint--a strongly reinforced portion of terrain. It is prepared for ring defense and for destruction of enemy troops advancing from all possible directions. A significant volume of engineer operations are conducted, and various sorts of obstacles are used--minefields for the most part. Meticulous preparation of the fire positions is especially significant. However, some representatives of the ground troop command feel that creation of strongpoints in the course of combat would be an exception and not the rule, since creation of a strongpoint requires much time and resources which the appropriate commanders would hardly enjoy in a quickly changing situation.

Accordingly, military experts of the USA note, a counterattack may be performed with the purpose of seizing the initiative, defeating enemy troops that have lost their fighting efficiency or moving troops to other combat positions. The company tactical group counterattacks only in the event that there is full probability of success (all forces and resources are committed when the counterattack is in the interests of the higher command, while individual platoons are committed if the counterattack is in behalf of the company tactical group). It is recommended that the counterattack be conducted swiftly, and after the missions are completed the participants of the counterattack are obligated to assume their new positions before the enemy is able to regroup for a strike against the counterattacking subunits. In some cases where a company tactical group must reclaim lost terrain having important significance to the defense of the higher unit, the group concentrates the necessary manpower and equipment and counterattacks according to the rules of conducting an offensive prepared in a short period of time.

The command of the U.S. Army believes that the company tactical group is capable of successfully completing its missions if in the course of "active defense" it constantly destroys the forces of the opposing enemy with the purpose of weakening him, which in the end would significantly reduce the rate of advance or compel the enemy to abandon the offensive completely.

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PERCEPTIONS, VIEWS, COMMENTS

AMERICAN 'BRADLEY' M2 INFANTRY COMBAT VEHICLE DESCRIBED IN DETAIL

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 11, Nov 82 (signed to press 10 Nov 82) pp 32-35

[Article by Engr-Col V. Safonov, candidate of technical sciences, and Engr-Maj L. Sidorov: "American M2 'Bradley' Infantry Combat Vehicle"]

[Text] In the opinion of foreign military experts the missions imposed upon infantry have expanded significantly and grown more complex. It is believed that they now entail not only seizing objectives or territories, which is itself a very complex problem given the present state of development of the implements of war, but also providing defense to tanks by destroying the enemy's antitank resources.

Prior to the 1960s armored personnel carriers were what imparted mobility and provided protection to infantry subunits. But as time went on, extensive introduction of portable antitank weapons and growth of their number and effectiveness made actions by infantry on foot practically impossible, leading to creation of a new type of armored vehicle--the infantry combat vehicle.

Considering the need for raising the fighting potentials of infantry, for a long time American experts tried to solve this problem by improving the abundant tracked M113 armored personnel carrier. The effort was centered mainly on raising its firepower and protection and locating the riflemen more efficiently. In 1970 this APC was used as the basis for designing the AIFV infantry combat vehicle, which was later on purchased by the Netherlands (the vehicle was code-named the YPR-765, and about 890 units were delivered). According to foreign press reports 600 such vehicles are to be purchased for the U.S. Army. The AIFV is armed with a 25-mm automatic gun mounted in an armored turret. It can carry nine persons, including three crew members. The body was strengthened with additional armor plating.

Creation of a new American infantry combat vehicle--the XM723--began in 1972. After certain final modifications it was renamed the "Bradley" M2 (see color insert [not reproduced]). Its series production began in 1981. There are plans for delivering about 2,600 such vehicles to the ground troops of the USA.

The layout of the "Bradley" M2 follows a pattern that has already become traditional to infantry combat vehicles: The engine-transmission compartment is

located in the front, and the riflemen are located in the back of the hull (Figure 1). The commander and gunner are located in the two-seat armored turret, and the driver-mechanic is in a control compartment located forward and to the left. Access to the passenger compartment is provided by a ramp in the back, which is itself closed by an armored door. The vehicle's combat weight is 21.3 tons.

An important feature of this infantry combat vehicle is the higher level of protection it affords in comparison with previous models. The body and turret are made from aluminum armor. Combined armor consisting of separated steel and aluminum plates, with the space between them filled with sheets of polyurethane foam, is used at the front and on the sides of the body. The floor of the body is reinforced with steel anti-mine sheets. A breakwater on the upper front portion of the body provides additional protection.

To permit its operation in the face of mass destruction weapons, the infantry combat vehicle is outfitted with a filtered ventilation unit to which the commander, gunner and driver-mechanic can connect their gas masks. Riflemen in the passenger compartment have their own individual gas masks. In the future, creation of an excess pressure in the vehicle will be possible; however, doubts have been expressed concerning the suitability of this, inasmuch as the vehicle would have to be depressurized whenever the riflemen dismount and when the "Tow" anti-tank guided missile launcher must be reloaded.

American experts devoted much attention to selection of the main armament for the infantry combat vehicle. It was decided in the end to use an automatic gun combined with the "Tow" antitank missile system, which in their opinion suited the vehicle's power.

The M42 25-mm automatic gun mounted in the turret has a stabilizing system operating in two laying planes. The electric-hydraulic turret drive and the electric gun angle of fire drive make it possible to transfer fire with a maximum rate of 60 degrees per second. Presence of an external drive (a 1.5-horsepower electric motor) to work the loading mechanism is a unique design feature. The gun has a double-belt feed. The gun can be fired in single shots or in bursts at a rate of 100 or 200 rounds per minute. The gun's ammunition load includes 900 rounds with armor-piercing subcaliber and high explosive fragmentation shells (of these, 300 are loaded and ready for use, and 600 are stored in a shell rack). According to Western press reports the first type of shells can pierce armor 66 mm thick at a range of 1,000 meters.

The gun is coupled with a 7.62-mm M240 machinegun (an improved version of the Belgian MAG-58 machinegun), the ammunition load of which is 2,200 rounds, of which 800 are loaded on a belt contained in a magazine. Four-barreled smoke grenade launchers are mounted on the sides of the front part of the turret.

The M2 is outfitted with a "Tow" antitank missile system to fight armored targets, tanks primarily. The launcher (with two guide rails) is mounted on the left side of the turret. It has an electric drive which places it in horizontal position (at sight level) prior to launching of the missile (Figure 2). The launcher may be aimed within vertical angles from -20 to +30°, and 360° in azimuth by rotating the turret. There are two "Tow" antitank guided missiles in

the launcher. The other five are located in the armor plate storage. The launcher is reloaded through a hatch behind the turret on the roof of the back of the hull. At this time the launcher is raised to maximum elevation. According to foreign press reports the "Tow" can be fired only when the vehicle is stopped. During the time it takes the antitank guided missile to fly to its target (it takes about 15 seconds to go 3,000 meters) the gunner controls it from the stopped vehicle by keeping the cross-hairs of his sight on the target.

The fire control system includes a combined (day and night) gunner's sight with four 11 magnification, used to fire the gun and the coupled machinegun, and a sight with 12-fold magnification for guiding missiles to their targets. The sight has a permanent optical connection with the commander's instrument. The observation block in the commander's cupola allows for 360° observation. On the whole, in the opinion of American military experts the armament installed in the turret of the M1 infantry combat vehicle allows it to fight various targets, to include tanks and combat helicopters.

M16 5.56-mm automatic rifles (Figure 3) on ball mounts (in firing ports) on the sides and back of the hull are used to kill enemy manpower. These rifles are a modification of the M16A1 rifle with an altered breech-block design and a shorter barrel. In addition the latter is thickened to allow for removal of heat emitted when the weapon is fired, especially when the rate of fire attains 1,100-1,200 rounds per minute. The rifles are sighted with prismatic viewing units mounted above each passenger seat. It is noted in the foreign press that tests have demonstrated that riflemen can hit point targets at ranges up to 250 meters with short bursts. The ammunition load for the automatic rifles is 4,000 rounds.

The crew members and passengers are armed with M16A1 5.56-mm automatic rifles (these rifles with an ammunition load of 2,160 rounds). In addition the foot soldiers are armed with one M60 7.62-mm machinegun (2,100 rounds) and three M72A1 hand-held antitank grenade launchers. These weapons are intended to be used during combat on foot.

One of the main requirements imposed on the American infantry combat vehicle is that it be highly mobile, such that it could interact successfully with tanks, and mainly with the M1 "Abrams." For this purpose it is outfitted with a VTA-800T V-8 500 horsepower diesel engine. It is installed together with an SST-300 hydromechanical transmission, unique in that it uses a hydrostatic transmission not only in the auxiliary but also the main power train, making continuous change in traction and turning radius possible in every gear. The transmission automatically selects the gear ratio and engine power depending on the position of the fuel feed pedal and the resistance to the vehicle's motion.

The undercarriage includes a track drive with six road wheels and three top rollers on each side, and an individual torsion suspension with hydraulic shock absorbers. The metallic track has removable rubber pads. In the opinion of foreign specialists the high unit power (21.3 horsepower/ton), relatively low ground pressure (0.62 kg/cm²) and wide road wheels (354 mm) insure adequate passability and good dynamic qualities for the vehicle. The maximum highway speed is 64 km/hr, and the range is 480 km. The vehicle crosses water obstacles by floating over them (at a speed of 7 km/hr by rolling the tracks). It can handle an ascent with a slope of 30°, a vertical wall up to 91 cm high and a ditch up to 3.3 meters wide.

Much attention was turned to the vehicle's development to outfitting it with modern communication resources. In addition to an internal communication system for use by the crew members and passengers, each infantry combat vehicle possesses an AN/GRC-110 radio set. The vehicle belonging to the platoon commander is outfitted with two such sets, while that of the company commander is outfitted with one AN/GRC-110 and one AN/VRC-46. For dismounted action, communication will be maintained within the platoon with portable AN/PRC-68 ultrashort-wave radio sets. In the future (by the mid-1980s) the Americans plan to replace these resources by a promising ultrashort-wave radio communication system developed in accordance with the SINGARS-V program. The new radio sets (including a portable modification) will be unique in that they will operate in digital mode with a speech scrambler in the presence of a high level of natural interference and jamming.

The infantry combat vehicle is outfitted with an automatic fire extinguishing system. In order to improve the habitability of the passenger compartment power fans are exhausted outward from the spent cartridge-case bags of the M231 automatic rifles, and the coupled machinegun is isolated from the fighting compartment by a sealed partition. A kit of spare parts, tools and accessories and trenching tools are carried on the vehicle.

Design specialists note that many of the design concepts arrived at during creation of the "Bradley" M2 may be carried over to other light armored vehicles. In particular the separated armor, which was patented by the Ford Machinery and Chemical Corporation, is also mounted on the AIFV, which significantly increases its protection while increasing the weight insignificantly.

According to viewpoints commonly accepted today in the U.S. Army, motorized infantry carried by an infantry combat vehicle may operate either from within the vehicle or dismounted during combat. But no matter the methods by which they operate, the infantry subunits must possess sufficient firepower and mobility, which is why the fighting potentials of the vehicle must be utilized in the best possible fashion. A platoon consisting of a control group and three infantry squads (a total of four vehicles) is believed to be the motorized infantry subunit which is capable of independently conducting missions with the M2 infantry combat vehicle.

According to the plans, each of the infantry squads would operate as two teams when dismounted--a fighting group and a combat support group. The first includes the squad commander or his assistant, a machinegunner, two or three riflemen with automatic rifles, a portable antitank guided missile complex operator and a sniper. This team may possess an M60 machinegun, three M16A1 automatic rifles, three M7/A2 hand-held antitank grenade launchers and up to three "Dragon" antitank guided missiles that are stowed in the vehicle in place of some of the "Paw" missiles. This team operates a certain distance away from the infantry combat vehicle, while the combat support group (commander, gunner and driver--perhaps or just the last two) fights from within the vehicle. The composition of the teams is determined depending on the enemy's strength and resources, the terrain, the size of the squad and so on.

Noting the greater combat potentials of infantry subunits outfitted with the M2 infantry combat vehicle, American military experts at the same emphasize

that there are still many unsolved problems. One of them is concerned with training commanders for the infantry squads, which in their opinion must possess qualifications even greater than those of tank commanders, inasmuch as they must control the actions of both vehicle crews and foot soldiers.

The M3 combat reconnaissance vehicle was created simultaneously on the basis of the "Bradley" M2. The reconnaissance vehicle does not differ outwardly from the infantry combat vehicle, and it possesses similar characteristics. However the M3 does not have firing ports and additional armor plating on the bottom. The layout of the passenger compartment was changed as well. The latter can fit two observers, an M2 7.62-mm machinegun, five M16A1 5.56-mm automatic rifles and 18 "Tow" antitank guided missiles on shell racks. The vehicle's communication equipment includes the AN/VRC-12 and the AN/PRC-77 radio sets. The combat reconnaissance vehicle is outfitted with night viewing instruments and an AN/PPS-15 radar for scouting moving ground targets. The ammunition load of the 25-mm automatic gun was increased to 1,500 rounds. In all, 3,300 M3 combat reconnaissance vehicles are to be delivered to the U.S. Army. They will basically replace the obsolete M114 reconnaissance armored personnel carrier and the M113 armored transporter, which are still being used for reconnaissance purposes.

The Caterpillar chassis of the infantry combat vehicle has been applied to the new American MLRS salvo-fire rocket system, which is already in series production.

On the whole, judging from reports in the foreign press, the command of the U.S. Army believes that outfitting the ground troops with the "Bradley" M2 infantry combat vehicle will significantly raise the fighting potentials of the troops. Further improvement of these vehicles and expansion of their production occupy an important place in the system of military preparations. Evidence of this can be found in particular in the more than 30 percent increase in allocations for the purchase of new infantry combat vehicles in fiscal year 1982.

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PERCEPTIONS, VIEWS, COMMENTS

RADIO RELAY COMMUNICATION SYSTEM LINKS NATO FORCES IN CENTRAL EUROPE

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 11, Nov 82 (signed to press 10 Nov 82) pp 35-38

[Article by Engr-Lt Col S. Sergeyev: "Radio Relay Communication System of the NATO Combined Armed Forces in Central Europe"]

[Text] The military-political leadership of the aggressive NATO bloc believes that troop command and control are made significantly more difficult by the complex nature and fluidity of combat activities in modern warfare and by high saturation of all branches of the armed forces with combat equipment. It is attempting to solve this problem by broadly introducing modern automation and communication resources.

To insure dependable communication for the command and control organs of the bloc's combined armed forces at both the strategic and operational-tactical levels in Europe, a combined automated communication system was created--the NATO NICS (NATO integrated communication system)* including tropospheric, radio relay, cable, radio and satellite communication lines. It can link up with the military and civilian communication systems of the bloc's member countries at all levels.

The NATO combined armed forces Central Europe radio relay communication system developed in the 1960s in accordance with the CIP-67 program (Communication Improvement Program) and contained within the composition of the NICS occupies an important place in the control of the most sizeable troop grouping. The program foresaw improving communication support to control organs of the NATO combined armed forces in Central European theater of war, to include the headquarters of the NATO combined armed forces in Europe after its transfer to Belgium following France's withdrawal from the bloc's military organization in 1966. In structural respects it is a "net" type of communication system. Its lines cross the FRG from north to south, and they extend through the Netherlands and Belgium (Figure 1 [figures not reproduced]). The bulk of the communication centers are located in West Germany, and six each are located in the two other countries. In all, according to foreign press reports, 53 communication centers are now functioning within the system (there are plans for 58 of them), of which 28 are personnel-serviced while the rest are automatic. Later on, the system is to be converted to digital information transmission equipment.

* For greater detail on the NICS system, see ZARUBEZHNOYE VOYENNOYE OBOZRENIYE, No 3, 1979, pp 32-36--*Editor*.

The communication center typically includes two modular shelters (one containing radio relay communication apparatus, Figure 2, and another containing multiplexing apparatus, Figure 3), two diesel generators and a personnel shelter (present only at the serviced centers). The number of shelters can vary depending on the space required by the specific center. The modular shelters, which are manufactured on the basis of NATO standards, are adapted for ground or air transport.

The communication centers are intended to be powered by a commercial electric power network. The diesel generators, one of which is a back-up, are used when it is impossible to hook up to a permanent power supply network or when the latter is unserviceable. In the latter case the apparatus is powered by a buffer battery until such time that the generator is started up.

The antenna systems of the permanent radio relay centers (parabolic reflectors with a diameter of up to 3 meters) are mounted mainly on masts about 100 meters tall. The throughput of the radio relay lines is 300 telephone channels.

Judging from reports in the foreign press much attention was devoted in the CIP-67 to insuring the viability of the radio relay communication system. A number of measures were implemented for this purpose. Thus when any portion of the system is put out of action, detour routes are automatically selected with the help of a computer in such a way that the smallest number of communication lines are placed into operation. The task of finding the optimum routes of information transmission is completed in three phases. In the first, all of the routes with the same initial and end points are determined. Then they are brought together into groups that are then treated as individual arteries. Thus the number of required routes is in a sense reduced. This approach, in the opinion of foreign specialists, economizes on computer time and hastens completion of the task.

During the second phase the computer determines the information transmission routes for those control organs which are transmitting messages at the given moment. With this purpose all unoccupied and possible routes of transmission are examined. Moreover a so-called distance function that depends on the length of the lines and the number of retransmitters employed is determined in relation to the former. The route is selected on the basis of the function's minimum value.

In the third phase the communication channels (telephone and telegraph) are grouped in such a way that channels could be switched at intermediate stations in groups, and not as separate channels. On the whole, as is noted in the foreign press, use of the grouping method has made it possible to decrease the amount of equipment.

The next direction for insuring the viability of the radio relay communication system was to build a network in which the most important terminals, including telephone switchboards, would be connected together by at least two arteries. Troop units and subunits are connected to their control organs (staffs and command posts) by two territorially separate communication lines (in a "ring" system). Thus every mobile terminal connected to the system along this "ring" is always connected to the command post (staff) by two communication lines.

The viability of radio relay communication centers is raised by protecting them (by locating the equipment in bunker-type shelters) and by optimally selecting their deployment location (away from places of probable enemy strikes).

Flexibility is provided to the communication system both by the possibility for using detour routes of information transmission and by locating the equipment of mobile radio relay centers (in forward areas) in standard transportable modular shelters, which facilitate their redeployment.

Foreign experts believe that rather high combat readiness of the system can be maintained by performing the appropriate preventive maintenance, by operational technical maintenance coupled with replacement of malfunctioning instruments and devices, and organization of combat duty at service communication centers. To insure dependable operation, a special technical control and service network has been created with the following structural organization. The entire system is broken down into two sectors, each with its own technical control center. They both link up to a regional control system in which information on the state of the communication system as a whole is generalized. In the event that one of the sector centers becomes inoperable, its functions are assumed by the regional center.

A special telephone and teletype communication network has been created within the technical control and maintenance network. It supports the work of service personnel and it is used to transmit data on the condition of the system's elements. Telephone communication exists between any two neighboring radio relay centers, between centers and the corresponding sector technical control centers, and between the sector centers themselves. Selective circuit communication may be organized when service personnel are working on the system. Teletype communication is organized similarly, but it services a limited number of the operationally most important radio relay centers.

Data on the technical condition of the radio relay centers is transmitted to the appropriate control centers on the basis of the "ring" principle mentioned earlier, where every local communication center is connected to the sector center by two data transmission lines. This means high dependability and viability for both the technical control and maintenance network and the communication system as a whole.

According to reports in the foreign press the network discussed above can monitor 32 parameters characterizing the performance of each radio relay center. In the control centers this information is fed to special displays. Moreover, personnel-serviced radio relay centers may be queried to determine the condition of particular devices.

In the opinion of foreign specialists creation and introduction of new radio relay lines into the NICS has significantly raised the possibilities for controlling the bloc's troops in Central Europe.

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PERCEPTIONS, VIEWS, COMMENTS

NATO AIR DEFENSE SYSTEM ORGANIZATION, STRENGTH SUMMARIZED

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 11, Nov 82 (signed to press 10 Nov 82) pp 39-46

[Article by Col F. Yur'yev: "NATO's Combined Air Defense System in Europe"]

[Text] Following the dangerous course of preparing for an aggressive war against the USSR and other countries of the socialist fraternity, the NATO military-political leadership is constantly increasing the power of the bloc's armed forces in the European theater of war. Important significance is attached in this case to raising the combat readiness of units and subunits of NATO's combined air defense system, which was created in 1961 and which represents a coalition of the air defenses of the bloc's member countries. The organization, the forces and resources, control, combat training and prospects for development of the system are examined below on the basis of data published in the foreign press.

Organization, Forces and Resources

NATO's combined air defense system in Europe consists of three zones: Northern (with the operations center in Kolsos [transliteration], Norway), Central (Bryun-syum [transliteration], the Netherlands), Southern (Naples, Italy) and Atlantic (Stanmor [transliteration], Great Britain). The boundaries of the first three zones coincide respectively with the boundaries of the North European, Central European and South European theaters of war, while the Atlantic zone encompasses the territory of Great Britain (including the Shetland and Hebrides islands, the Faeroe Islands and the seas bathing them).

An air defense zone consists of areas, and the areas are divided into air defense sectors (the Atlantic zone contains sectors only). Air defense areas coincide territorially with the zones of responsibility of the joint tactical air commands (JTACs) or national tactical air commands (TACs). The forces and resources of the combined air defense system are managed by the staff of the supreme high command of the combined air forces of NATO and Europe. Even in peacetime surface-to-air guided missile and fighter-interceptor air force units and subunits as well as a significant quantity of the antiaircraft resources of the ground troops are operationally subordinated to the former. The commanders in chief of NATO combined armed forces of a theater of war manage the air

defense units in the appropriate zone, the RAF commander in Great Britain manages the Atlantic zone, and the commanders of the JTACs or TACs manage units in the air defense areas.

The Northern air defense zone consists of the Norwegian (two sectors) and Danish air defense areas. They possess 96 surface-to-air missile launchers, to include 72 "Nike-Hercules" surface-to-air missile launchers and 24 "Improved Hawk" surface-to-air missile launchers, as well as three squadrons of fighter-interceptors totaling up to 60 airplanes.

The central air defense zone is divided into the following air defense areas: The 2d JTAC (with its operations center in Maastricht, the Netherlands), which encompasses the northern part of the FRG, Belgium, the Netherlands and the seas bathing these countries, and including the 1st and 2d sectors with operations centers in Broktsetel' [transliteration; Brochsal?] and Yudem [transliteration] (both in the FRG); the 4th JTAC (Kindsbakh [transliteration], FRG), occupying the central and southern FRG and Luxembourg and possessing one air defense sector (the 3d).

The main forces and resources of NATO's combined air defense system are concentrated in this zone. Thus the USA, Great Britain and Belgium allocated to the combat composition of this zone more than 20 surface-to-air missile battalions containing about 660 launchers (of these, more than 500 launchers are from the 32d Air Defense Command of the U.S. ground troops in Europe).

The following have been transferred from the air forces of the NATO countries to the combat composition of the Central air defense zone: from the USA--five air squadrons (over 120 airplanes, including four squadrons of F-15 fighters); FRG--six "Nike-Hercules" surface-to-air missile battalions, nine "Improved Hawk" surface-to-air missile battalions and four air defense fighter squadrons (a total of more than 430 surface-to-air missile launchers and 60 fighter-interceptors); Belgium--two battalions of "Nike-Hercules" surface-to-air missiles (72 launchers) and two squadrons of fighter-interceptors (36 airplanes); the Netherlands--one "Nike-Hercules" surface-to-air missile battalion, 11 "Improved Hawk" surface-to-air missile batteries (more than 100 launchers) and two air defense fighter squadrons (36 airplanes); Great Britain (from the composition of the command of the RAF in the FRG)--one "Bloodhound-2" surface-to-air missile squadron, four "Rapier" surface-to-air squadrons (for a total of 80 launchers) and two fighter-interceptor squadrons (24 airplanes).

In all, according to the foreign press, the Central NATO air defense zone contains more than 1,300 surface-to-air missile launchers and up to 280 fighter-interceptors.

The southern air defense zone encompasses Italy, Greece and Turkey and part of the Mediterranean Sea. It contains two air defense regions--the 5th and 6th JTACs. The first (with its operations center in Monte-Kavo [transliteration], Italy) possesses six fighter-interceptor squadrons (72 airplanes), two "Nike-Hercules" surface-to-air missile battalions (72 launchers) from the Italian air forces and four "Improved Hawk" surface-to-air missile battalions (96 launchers) from Italy's ground troops. The second (operations center in Izmir, Turkey) contains four surface-to-air missile battalions (more than 130 launchers)

and eight fighter-interceptor squadrons (up to 140 airplanes) from the armed forces of Greece and Turkey.

In all, about 300 surface-to-air missile launchers and more than 200 fighter-interceptors are concentrated in the Southern air defense zone.

The Atlantic air defense zone includes three sectors: "North," "Center" and "South." Their operations centers are located respectively in Buchan, Boulmer and Nitiskhed [transliterations]. The zone's combat composition includes the 11th Fighter Air Group consisting of seven air defense fighter squadrons (84 airplanes), and three squadrons of "Bloodhound" and "Rapier" surface-to-air missiles (64 launchers).

Thus according to data in the foreign press up to 1,800 surface-to-air missile launchers and 600 fighters may be used in the combined air defense system of NATO and Europe to complete its missions. The main tactical and technical specifications of presently existing and some future surface-to-air missiles are shown in Table 1.

The "Nike-Hercules" and "Bloodhound-2" surface-to-air missile complexes are intended against airplanes flying at moderate and high altitudes. Organizationally, the "Nike-Hercules" surface-to-air missile complex battalion consists of four batteries of nine launchers each. The "Bloodhound-2" missiles are organized into squadrons, each of which has a command post, two to four batteries (of four to six launchers each), a target illumination radar, a control post and a power unit.

The medium-range "Improved Hawk" surface-to-air missile complex (Figure 1 [figures not reproduced]) is intended against airplanes at low and moderate altitudes. Most of them are organized into battalions with mechanical prime movers (each containing four batteries of six launchers each). A battery consists of two sections (launcher platoons) capable of firing independently against airborne targets. One battalion can simultaneously launch missiles at eight targets.

Moreover the 32d Air Defense Command of U.S. ground troops in the Central European theater of war now contains self-propelled battalions of "Improved Hawk" surface-to-air missiles. Such a battalion consists of three batteries (three launcher platoons with three launchers each), and it may launch missiles simultaneously at nine enemy airplanes.

The "Rapier" (Figure 2) and "Chaparral" surface-to-air missile complexes are used against low-flying airborne targets. The former are organized into squadrons used to cover RAF bases both in the FRG and Great Britain. A squadron possesses a staff, two combat flights (with four launchers each) and a service flight, all totaling about 100 persons. The latter are included organizationally into battalions of the 32d Air Defense Command of the U.S. ground troops (with each containing two batteries of 12 launchers each).

According to reports in the foreign press the main administrative-political and industrial centers as well as the main groupings of the bloc's armed forces in the Central European theater of war, deployed on FRG territory, are

Table 1. Tactical and Technical Specifications of Surface-to-Air Missiles

| Name | Range, km: maximum/ minimum | Effective Target Altitude, km: maxi- mum/minimum | Take-Off Weight, kg | Missile Dimensions, meters: length/ diameter | Maximum Missile Velocity, m/sec | Guidance System |
|--------------------|-----------------------------------|--|---------------------------|--|--|--|
| "Nike-Hercules" | $\frac{140}{.}$ | $\frac{30}{3}$ | 4800 | $\frac{12.6}{0.8}$ | 940 | Radio command |
| "Bloodhound" | <u>More than 80</u> | . | 2500 | $\frac{7.75}{0.55}$ | M=3 | Semiactive radar |
| "Improved Hawk" | $\frac{40}{.}$ | $\frac{18}{0.03}$ | 625 | $\frac{5.08}{0.37}$ | Up to 900 | " |
| "Rapier" | $\frac{5}{0.5}$ | $\frac{3.6}{0.03}$ | 43.5 | $\frac{2.24}{0.13}$ | 650 | Radio command |
| "Chaparral" | <u>4 (in pursuit)</u> | $\frac{2.5}{.}$ | 84 | $\frac{2.9}{0.127}$ | 850 | Passive IR |
| "Patriot" | $\frac{60}{.}$ | $\frac{24}{.}$ | 1000 | $\frac{5.18}{0.41}$ | Up to 1600 | Radio command in central portion of trajectory, semi- active radar in final portion Radio command |
| "Roland" | $\frac{6.2}{0.26}$ | $\frac{5.5}{0.015}$ | 62.5 | $\frac{2.4}{0.16}$ | 580 | Semiactive radar |
| "Spada" | $\frac{12}{.}$ | $\frac{6}{0.015}$ | 220 | $\frac{3.7}{0.203}$ | 700 | Semiactive radar |
| "Indigo" | $\frac{10}{1}$ | $\frac{5}{0.015}$ | 120 | $\frac{3.3}{0.195}$ | 850 | Radio command |

the most dependably covered against aerial attack. Up to 70 percent of the forces and resources of the NATO combined air defense system are concentrated in this area. The launch positions of the surface-to-air missile units and subunits are deployed in two belts: one near the eastern borders of the FRG consisting of "Improved Hawk" surface-to-air missile complexes, and another located 100-200 km further west consisting of "Nike-Hercules" surface-to-air missile complexes. Because of an insufficient quantity of surface-to-air missile complexes, the main troop groupings and other facilities are provided only partial cover in other European theaters of war.

According to the viewpoints of NATO military experts air defense fighter aviation is intended mainly for interception of airborne targets beyond the effective range of surface-to-air missile complexes. Such fighters are maintained on an airfield alert status. When the situation turns uneasy, fighter-interceptors will be used in combat patrols, and when combat activities begin they will escort the attack groups of tactical aviation and provide cover to troops on the march.

Fighters are organized into squadrons and air wings (squadrons in the FRG air forces and air stations in Great Britain). The organic composition of air defense squadrons includes from 12 to 24 airplanes. The fighter air units and subunits of the NATO combined air defense system are now armed with "Phantom-FGR.2", F-4F, F-15, F-16, F-102A, F-104, "Lightning" and some other airplanes. Their basic tactical and technical specifications are shown in Table 2.

Control of Forces and Resources

The forces and resources of NATO's combined air defense system in Europe are controlled by the operations centers of the zones, areas and sectors with the help of the NADGE automated control system, which is intended to support interception of airborne targets at altitudes up to 30 km and speeds up to Mach 2. This automated control system consists mainly of control and reporting posts and centers, observation and reporting posts and early-warning radar. It contains 84 radar posts and controls organs, with almost half of them being outfitted with computers. According to the estimates of foreign specialists a modern computer can track about 300 airborne targets and control interception of 15-30 of them. There are more than 280 radar stations in the centers and radar posts of the NADGE automated control system. These stations are capable of creating a continuous zone of radar observation of the airspace (at high and moderate altitudes) from northern Norway to the eastern borders of Turkey.

The process of controlling the forces and equipment of NATO's combined air defense system proceeds as follows. Data on the aerial situation obtained from radar posts are automatically fed into the computers of the control and reporting centers, from which they are transmitted to the screens of reporting and guidance (target distribution) operators, where they are reflected in alphanumeric form or as radar traces. After the targets are identified, using the computer the operators select the weapon systems to annihilate the airborne enemy and report their decision to the center chief, who issues the command for their interception (destruction) upon coordinating with the air defense sector (area) chief.

Table 2. Tactical and Technical Specifications of Air Defense Fighters

| <u>Airplane</u> | <u>Crew, persons</u> | <u>Maximum Range at High Altitude, km/hr</u> | <u>Practical Ceiling, meters</u> | <u>Radius of Operation at High Altitude, km/range at high altitude, km</u> | <u>Armament</u> |
|-----------------|--------------------------|--|--|--|---|
| F-4F | 2 | 2400 | 22,000 | <u>1260</u> 3700 | 4 "Sparrow" GM [guided missiles] or 2 "Sparrow" GM and 4 "Sidewinder" GM, 20-mm "Vulcan" cannon |
| F-104G, S | 1 | 2300 | 18,300 | <u>1000</u> 3150 | 2-4 "Sidewinder" GM, 20-mm "Vulcan" cannon |
| "Lightning" | 1 | 2350 | 18,300 | <u>800</u> 2300 | 2 "Firestreak" GM or 2 "Red Top" GM, 2 30-mm guns |
| F-5A | 1 | 1480 | 15,400 | <u>700</u> 2230 | 2 "Sidewinder" GM, 2 20-mm guns |
| F-102A | 1 | 1330 | 16,500 | <u>700</u> 2200 | 6 "Falcon" GM |
| F-16A | 1 | 2300 | 18,300 | <u>925</u> 3700 | 2-6 "Sidewinder" GM, 20-mm gun |
| F-15A | 1 | 2650 | 21,000 | <u>1000</u> 4600 | 4 "Sparrow" GM, 4 "Sidewinder" GM, 20-mm gun |
| "Tornado-F.2" | 2 | 2350 | * | <u>740*</u> 3220 | 2 "Sidewinder" GM, 2-4 "Skyflash" GM, 27-mm gun |

* When patrolling for 2 hours

If a decision is made to annihilate targets by surface-to-air guided missiles, the order is transmitted via the missile distribution operator to the commander of the battalion (battery) he selects. The combat crew of the latter uses its resources to subsequently track, intercept and annihilate the targets. When a decision is made to commit air defense fighters to combat, the commands are transmitted to an operator who distributes targets among the fighter aviation subunits. This operator determines the optimum route of his airplanes for their interception.

Despite the fact that active air defense resources are controlled by a central control organ, all information is continually transmitted from it to the operations centers of the air defense sectors, areas and zones, as well as to the headquarters of the supreme commander in chief of the NATO combined armed forces in Europe so that the situation could be correctly estimated, and if it becomes necessary to redistribute available forces and resources to repel an air raid from the most important operational directions.

In the opinion of NATO experts the NADGE system basically satisfies today's requirements; however, some of its equipment is obsolete and requires replacement. Moreover it cannot insure dependable detection of airplanes flying at low and especially at minimum altitude. In this connection mobile radar posts of the West German "Lars" [transliteration] system have been deployed along the eastern borders of the FRG. The "Lars" system consists of two battalions (one battalion from the 32d and the 33rd signal regiments of the FRG air force), with each having three companies. A company contains up to eight MPDR 30/1 or MPDR 45 radar stations, which can detect low-flying airborne targets at ranges of 30 and 45 km respectively. The data of this system are continually transmitted to the NADGE automated control system.

According to reports in the foreign press the organizational structure of NATO air defenses allows for centralized and decentralized control of surface-to-air missile and fighter-interceptor units and subunits. Moreover the NADGE automated control system interacts closely with the tactical aviation automated control system for the Central European theater of war (the 485L), with the SAGE system of the North American continent, with the French "Strida" [transliteration] national automated control system and with shipboard air defense resources of the U.S. Sixth Fleet in the Mediterranean Sea.

Combat Training

The combat training of units and subunits of the NATO combined air defense system is organized and conducted in accordance with plans of the command of NATO's combined armed forces in the European theater of war. According to reports in the Western press the main forms of training are joint exercises and maneuvers conducted by the air forces, ground troops and navies of the NATO countries in Europe, and special air defense exercises. Such measures include the exercises "Wintex," "Display Determination," "Dawn Patrol," "Cold Fire" and others. In them, problems associated with converting NATO air defense systems from a peacetime to a wartime posture, estimating the air situation, coordinating between air defense units and subunits and controlling fighter aviation and surface-to-air missile units during repulsion of an enemy attack at different altitudes in the presence of electronic jamming by the enemy are worked out.

Flight crews, surface-to-air missile complex crews and control organs are trained both on the basis of plans of the NATO command and on the basis of national programs at special centers and training institutions. For example the missile school of the FRG air force, which is located in the USA in Fort Bliss (Texas), trained more than 18,400 officers and NCOs for air defense units and subunits in 1970-1979. Its program lasts 9 months. During training,

the command studies different surface-to-air missile complexes, the rules of fire, combat application of surface-to-air missile units and subunits, strategy and general problems of military service. In this case more than 70 percent of the training time is devoted to lessons on the rules of launching and combat use of surface-to-air missiles. Practical firing exercises are organized at a practice range on the island of Crete each year for surface-to-air missile battalions of NATO's combined armed forces in Europe.

As is noted in the foreign press, a significant proportion of the forces and resources of this system serve combat duty around the clock. Training alerts are regularly conducted to test the combat readiness of air defense resources on duty (Figure 3).

During their daily training, air units within the composition of the air defense forces clock most of their flying hours practicing interception of airborne targets and aerial combat with enemy airplanes. In particular, judging from reports in the foreign press, crews of the 526th and 32d tactical fighter air squadrons of the 17th Air Army of the U.S. Air Force Command in Europe spend an average of up to 70 percent of their total flying time on air defense missions.

Prospects for Development

The NATO command devotes significant attention to modernizing surface-to-air missile complexes, fighter-interceptors and radiotechnical and other air defense resources presently being employed, and to developing new resources.

As of today replacement of "Hawk" surface-to-air missile complexes by "Improved Hawk" complexes has been completed in air defense units and subunits of the FRG, USA, Denmark and other bloc countries. The new complexes have a greater range and kill probability, and a lower reaction time against high-speed maneuvering targets in the presence of interference created by radar resources. It is believed that together with modernized "Nike-Hercules" complexes they will be used by most NATO countries through the 1990s as well.

At the same time the USA is conducting intensive troop trials of the new "Patriot" surface-to-air missile complex; obsolete "Nike-Hercules" surface-to-air missile complexes are to be replaced by these as early as in the 1980s; later on they will also replace the "Improved Hawk" in units and subunits of the 32d Air Defense Command of the U.S. ground troops in Europe.

As is noted in the Western press, this surface-to-air missile complex will be composed of a control post, a radar with a phased antenna array, launchers with four missiles each (five launchers is thought to be the optimum quantity in a complex), four self-contained power sources, communication apparatus and auxiliary operational equipment. The possibilities of acquiring new American "Patriot" surface-to-air missile complexes are being examined by the military departments of the FRG and some other NATO countries.

Some West European NATO members are planning to create their own weapon systems for the purposes of rearming missile units outfitted with "Improved Hawk" surface-to-air missile complexes in the 1990s. Examples are "Mifla" [transliteration] (FRG) and "Euro-SAM" (Great Britain, France).

It is reported in the foreign press that in recent years the NATO countries have been devoting considerable attention to developing and producing short-range mobile surface-to-air missile complexes. In particular the "Roland-2," "Rapier," "Spada" (see color insert [not reproduced]), "Indigo" and other complexes were designed. In the opinion of the bloc's military experts, by as early as the 1980s they will become the main resources of NATO's combined air defense system intended for use against the airborne enemy at low and minimum altitude. Concrete measures are being planned and implemented for this purpose. For example the air force command of the FRG plans to form three composite squadrons (18 squadrons) armed with self-propelled "Roland-2" surface-to-air missile complexes in 1983-1988. Each squadron will contain eight launchers and one fire control vehicle bearing detection and target indication radar, and apparatus with which to coordinate the combat activities of the "Roland-2" complexes with antiaircraft artillery batteries. In all, 175 such complexes are to be delivered to the West German air force.

A modified version of the surface-to-air missile complex, the "Roland-2C," has been developed in France on request of the Belgian minister of national defense. This complex is intended for air defense around permanent facilities (airfields, bridges, supply depots etc.). Organizationally they will be lumped into batteries (each with one command post and two or three launchers). According to the estimates of foreign specialists one such battery defending an airfield would be able to repel a raid by 24 enemy airplanes and annihilate up to 50 percent of them.

In addition to developing surface-to-air missile units the NATO command is turning serious attention to expanding the combat potentials of fighter aviation. With this purpose the following measures are being implemented in NATO's combined air defense system in Europe: Fighter-interceptors are being modernized and new ones are being created, the aviation control organs are being improved, and personnel combat training is being improved with a consideration for the unique features of combat activities in the European theater of war.

Aviation equipment is being modernized on the basis of numerous programs. Thus the West German air force plans to improve the onboard equipment of F-4F airplanes in order to raise piloting precision and provide a possibility for equipping them with "Sidewinder" AIM-9L guided missiles. The command of Italy's air force hopes to modernize its F-104S fighter-interceptors by installing modern onboard radar and outfitting them with "Aspid-1A" guided missiles, which have a range of up to 50 km.

It was noted in the foreign press that Norway, Denmark, Belgium and the Netherlands have purchased 358 new American F-16 fighters, some of which will be used for air defense missions. They are now being delivered to the air forces of these countries.

The command of the U.S. Air Force in Europe is completing its rearmament of the 36th Tactical Fighter Wing and 32d Fighter Squadron, presently outfitted with "Eagle" F-15A airplanes, with improved F-15C fighters (see color insert [not reproduced]). In the opinion of American experts the latter have better tactical and technical characteristics, and their combat potentials are greater.

Great Britain is conducting flight tests on the "Tornado-F.2" fighter-interceptor (there are plans for purchasing a total of 165 craft).

According to foreign press the fighters of the NATO countries (including the latest F-15 and F-16) do not have identification systems that are dependable at great distances. In addition their weapon control systems require that the target be followed until it is hit. These circumstances mean that to determine the country of the target and to fire, the fighter pilot must approach the target, which carries the threat that the fighter itself would be annihilated by the airborne enemy. To correct these shortcomings NATO specialists are attempting to create a new identification system and to outfit the airplanes with missiles that do not require guidance by onboard radar following their launching. The latter include the promising ASRAAM short-range guided missile, which is to replace the "Sidewinder" missile in the early 1990s, and the AMRAAM medium-range guided missile (to replace the "Sparrow" rocket). In addition new tactics for air defense fighters in different situations are being studied intensively.

In order to improve the system for controlling active air defense resources in the MADGE automated control system, the network of ground radar stations is to be broadened (obsolete stations will be replaced by improved ones), communication lines are to be modernized, and new electronic equipment is to be installed in the control and reporting centers. This work has already been started in Norway and the FRG. In particular a new automated system for air defense control has been deployed in the FRG (in place of the obsolete American 412L automated control system). It will consist of four radar posts, a control and reporting center and data transmission lines. This system is often referred to in the Western press as "GEADGE" (German Air Defense Ground Environment). It will receive data on the air situation and from NATO's MADGE air defense automated control system, as well as from mobile radar systems of the "Lars" low-altitude target detection system.

The "Martello" (Great Britain), AN/TPS-59 and -43E (USA) and AN320 (Anglo-American) radar stations are the most promising from the point of view of Western specialists. One of the main directions for raising control effectiveness is to deploy an airborne early warning and control system, the AWACS, which is based aboard 18 American E-3A airplanes and 11 English "Nimrod-AEW.3" airplanes.

The complex of onboard electronic equipment of the E-3A can detect and track large airborne targets (such as heavy bombers) at great altitudes at distances of up to 700 km, and at low altitudes at distances up to 400 km. The detection range of tactical fighters is 450 and 320 km respectively. In order that the E-3A and "Nimrod-AEW.3" early warning and control airplanes could perform their missions in future operations in the European theater of war, main and forward air bases are presently being prepared, and the patrol regions and flying altitudes are being selected with a consideration for insuring the required range of airborne target detection in the presence of interference created by the enemy, and with a consideration for the enemy's possibilities for annihilating these airplanes with surface-to-air resources and fighters.

Foreign military experts believe, were these and some other measures to be implemented, the combat potentials of NATO's combined air defense system would be significantly.

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the continent by a sandy isthmus. The eastern slope of the rock is steep, and the western slope is gentle. This British territory is separated from Spain by a neutral zone about 500 meters wide.

Gibraltar is an English naval and air base. It is the location of the commander of the Royal Navy's Gibraltar naval region and of the staff of the NATO combined naval forces in the Gibraltar area. There is a manmade harbor on the western part of the peninsula (8.2-14.6 meters deep) outfitted with moorings, four dry-docks (one of them, which is 262 meters long, is the largest in the Mediterranean basin), a ship repair plant and fuel and other depots. The naval base can receive and service ships of all classes. The foreign press reports that in 1982 its ship repair possibilities were broadly employed to restore ships damaged during the Anglo-Argentinian conflict over the Falkland (Malvinas) Islands.

There is an airfield in the north part of the Gibraltar Peninsula serving as a base for tactical, shore patrol (Figure 1 [figures not reproduced]) and transport aviation.

According to the foreign press there is a branched network of tunnels and galleries in the rock. They contain a communications center, a naval surface monitoring center employing 140 service personnel, a naval hospital has been created,* and enormous reserves of various technical material supplies are stored here in the event of military action. Drinking water storage tanks are also located in underground structures. Reservoirs for the collection and storage of rain water are set up on the rock's eastern slope. In addition there is a special desalinization facility.

The commander of the Gibraltar naval area (presently Rear Admiral D. Mackenzie) simultaneously occupies the posts of the colony's governor and commander of the NATO combined naval forces in this area. His headquarters is located in the administration building of the shipyard, and the staff working organs are located in rock caves.

In peacetime the staff develops operational plans for using the forces placed at its disposal, and it manages exercises of the bloc's combined naval forces in the Gibraltar area. In this case the main attention is devoted to organizing a blockade of the strait. It was noted in the foreign press that there is a detailed plan for blockading the Strait of Gibraltar code-named "Fortress Gate," the main points of which are regularly practiced at NATO combined armed forces exercises such as "Test Gate."

In periods between these exercises special significance is attached to fighting enemy submarines breaking into the Mediterranean Sea. It was reported in the foreign press that they can cross the strait under water. It is extremely difficult to detect them in this case in view of the complexity of the hydrological conditions (there are two countercurrents in the strait differing in water temperature: one on the surface coming in from the Atlantic and a deep one

* This year it provided treatment to seamen and officers wounded in combat on the Falkland Islands--*Editor*.

from the Mediterranean Sea). These conditions, Western military experts emphasize, favor the passage of submarines and at the same time hinder their quest by surface ships. They also significantly complicate organization of the identification of detected underwater targets. This is why the NATO command has developed special routes of movement of its own submarines through the Strait of Gibraltar. These routes are continually updated in the course of exercises.

In peacetime the commander of the Gibraltar naval area may have at his disposal two or three ships of a principal class (Figure 2), one or two seagoing minesweepers, several submarines, a detachment of "Nimrod" (two to four craft) or "Jetstream" (four to six craft) shore patrol aviation, one or two "Canberra" reconnaissance airplanes, "Sea Harrier" fighters, an infantry battalion and various engineer and support subunits.

In the case of sharp aggravation of the situation and the onset of war, as well as during exercises of the NATO combined armed forces, additional forces are transferred to the commander of the British navy's Gibraltar military area (warships and naval aircraft of other member countries--predominantly the USA and Spain), while he himself becomes the commander of the bloc's combined naval forces in the Gibraltar area.

Judging from reports in the foreign press these forces will have the following wartime missions: establishing and maintaining control over the Strait of Gibraltar, fighting enemy submarines and task forces and protecting marine lines of communication (primarily meeting and escorting convoys from the Iberian Atlantic into the Mediterranean Sea). Close interaction between the NATO combined armed forces command in the Iberian Atlantic and the NATO combined naval forces in the western Mediterranean and organizing antisubmarine, antimine and air defense of the strait is also foreseen.

According to estimates of Western military experts up to 20 warships and auxiliary vessels and more than 20 airplanes and helicopters of shore patrol (reconnaissance) and tactical aviation may be allocated for the purposes of these missions.

In order to reinforce the combined naval forces of the North Atlantic alliance in the Gibraltar area, there are plans for sending a permanent NATO Atlantic naval formation or a Mediterranean NATO naval formation to operate "on call" and, when necessary, other forces from the composition of the bloc's combined armed forces in the Iberian Atlantic or the South European theater of war.

Frigates and destroyers are the backbone of the NATO combined naval forces in the Gibraltar area. The missions planned for them include fighting enemy submarines and surface ships and escorting the seagoing convoys and vessels. It was noted in the foreign press that with the beginning of war, the enemy will try to force the Strait of Gibraltar from the Atlantic side with the purpose of reinforcing his grouping in the Mediterranean Sea. To fight submarines, the bloc command plans to create various ship hunter-killer groups. They will hunt submarines in coordination with "Nimrod" and "Orion" patrol aircraft and deck-landing helicopters. To increase the possibilities of submarine detection, ships towing sonar antennas are to be included in the composition of these groups.

In the opinion of foreign military experts the command of the NATO combined naval forces in the Gibraltar area occupies an important place in the system of the bloc's armed forces. Now that Spain has joined the North Atlantic alliance and the return of Gibraltar to it is possible, the boundaries of this command and its missions may be subjected to review. The USA is displaying special interest in this issue. Under the guise of NATO it hopes to transform Gibraltar into a base for its own armed forces, and primarily the Sixth Fleet. All of this indicates that contrary to the interests of the peoples of the Pyrenees Peninsula and the Mediterranean countries, the bloc's military-political leadership is continuing its course of increasing tension in this region of the world, preparing its armed forces for its aggressive plans.

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PERCEPTIONS, VIEW, COMMENTS

EVENTS OF NATO NAVAL EXERCISE 'OPEN GATE-82' OUTLINED

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 11, Nov 82 (signed to press 10 Nov 82) pp 65-66

[Article by Capt 2d Rank V. Khomenskiy: "NATO Combined Naval Exercise 'Open Gate-82'"]

[Text] In the period from 20 to 27 May 1982 the NATO combined naval forces conducted an exercise code-named "Open Gate-82" in the Iberian Atlantic and the western Mediterranean. Its main objective was to test the plans and practically work out the issues concerning the use of the bloc's heterogeneous naval forces to defend oceanic and sea lines of communication, to fight enemy submarines and surface ships and to blockade the Strait of Gibraltar in the time of sharp aggravation of the international situation and in operations at the beginning of a limited war.

The exercise participants included the commands and staffs of the NATO combined armed forces in the Iberian Atlantic and the South European theater of war, up to 30 warships and auxiliary vessels (including the permanent NATO naval formation in the Atlantic), and about 80 airplanes and helicopters from tactical and antisubmarine naval aviation of the USA, Great Britain, Canada, the FRG, Portugal, the Netherlands, Denmark and Italy. The number of English ships was drastically reduced in comparison with the plans owing to the Anglo-Argentinian conflict over the Falkland (Malvinas) Islands.

The plan of the exercise foresaw the following scenario: The "enemy" deployed some his forces at the Strait of Gibraltar and blockaded it with the purpose of interdicting lines of communication in this area, so important to the Western countries, and interrupting marine shipping. Under these conditions the NATO command decided to reinforce the naval grouping on the western and eastern approaches to the strait. In the course of the initial combat activities the NATO combined naval forces managed to break the blockade of the strait and, through the joint efforts of surface ships, submarines and aviation, support stable passage of convoys together with reinforcement troops, equipment and military cargo into the Mediterranean Sea and the Atlantic.

The exercise proceeded in two stages. In the first the main attention was devoted to reinforcing the naval grouping in the Iberian Atlantic by transferring forces from other theaters of war, forming formations and groups of various

purposes and deploying them in combat areas. The naval grouping was reinforced by NATO's permanent naval formation in the Atlantic, which was transferred from the eastern Atlantic into the Iberian Atlantic, and with other ships belonging to the navies of the bloc's countries. Ship hunter-killer groups hunted "enemy" submarines deployed in the regions of the most intense shipping. They operated at the eastern and western approaches to the Strait of Gibraltar in close coordination with shore patrol aviation.

In the second stage of the exercise the main efforts were directed at achieving supremacy in the Iberian Atlantic and in the Gibraltar area of the Mediterranean Sea by destroying "enemy" submarines and ship groupings. The struggle was waged by surface ships, submarines and tactical airplanes. Submarines operated predominantly according to a static-maneuvering method, making torpedo strikes from ranges of up to 40 cables. "Enemy" submarines were hunted along the convoy routes by the hunter-killer groups jointly with shore patrol aviation and deck-landing helicopters. According to reports in the foreign press the offensive actions of the bloc's naval forces were successful in establishing supremacy in the Iberian Atlantic and control over the Strait of Gibraltar, thus creating favorable conditions for subsequent transfer of reinforcements to the South European theater of war and escort of convoys into the Atlantic.

Several small convoys were formed and escorted in the presence of active counter-measures by "enemy" submarines and aviation in order to work out the problems of protecting marine lines of communication (organized on a zonal principle). Defense of the convoys was assigned to the command responsible for the zone in which they were present.

Problems associated with organizing all forms of defense of task forces and with logistical supply of ships at sea were solved and the effectiveness of control and communication in the presence of electronic warfare resources was tested in the exercise as well.

Overall leadership was provided to the exercise by the commander of NATO's combined armed forces in the Iberian Atlantic, while the actions of forces in the western Mediterranean were managed by the commander of NATO's combined naval forces in the South European theater of war.

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